THE CULTIVATOR.

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THE FARM OF E. PHINNEY, ESQ.

EDITORS OF THE CULTIVATOR—Having recently enjoyed the kindness and hospitality of this gentleman and his pleasant family, in a short visit to his beautiful and highly productive farm in Lexington, Mass., and having found much, very much, to admire and approve, I know of nothing which I can furnish for the columns of your excellent journal, that may be so useful and instructive, as an account of some of the practical operations of this intelligent, skilful, and long experienced farmer.

In a recent letter to me, Messrs. Editors, you were pleased to say,—"there is at present a large class of agricultural readers, who have gone to farming, from the shop, store, offices, &c., who read much more than the old stock, and who absolutely require all the details of farming." This fact, coming from so high authority, I regard as full of promise for the future improvement of our agriculture; since this class of readers, being free from *old* prejudices, will have their minds open to *truth*, even if that truth should be found lurking under the head of "modern improvements." To this class my present observations will be more particularly directed; and, avoiding all glowing descriptions of this beautiful farm, which might be very properly given by an abler pen, I shall content myself with the more humble, but I trust not the less useful detail of farm management.

When Mr. PHINNEY commenced, some twenty-five years ago, his farm presented a most forbidding aspect. The soil was covered up with stones and bushes, shrub oaks and pines, so as to be literally inaccessible for cultivation; the fences were in a miserable condition, and what land had been cultivated, was worn out in vegetable substance under the "skinning" system. He debated with himself, for some time, whether an investment might not be made here, in the removal of these obstructions and the improvement of the soil, that would be judicious, and in the end profitable; and although men of less agricultural skill and enterprise, would have shrunk from the undertaking, he commenced and persevered. It must now be apparent to any practiced eye, that on this farm are the elements of liberal and sure reward for all former toil and expense, let the world go as it may.

It is almost incredible how much the hand of skill and diligence has done on this farm, in removing the obstacles to cultivation, and converting barren and unproductive wastes into fruitful fields. The secret, however, is clearly revealed in the following remarks, found in an address delivered by Mr. Phinney himself, before the "Middlesex Society of Husbandmen," several years since, which are so much more to the purpose than any thing I can offer, that I cannot forbear the quotation:—

"It is true, that the wealth of the opulent has done much, but mental research and a spirit of inquiry, accompanied by the personal inspection and persevering efforts of the practical farmer, have done much more to increase the produce and improve the condition of our farms.

"This is most forcibly illustrated by Pliny the elder, 'Furius Cresinus, an emancipated Roman slave, having obtained from his very small estate, much larger crops than his more wealthy neighbors from their vast domains, they became so envious, that they charged him with employing enchantment, to attract into his grounds the produce of their fields. Having been summoned by Spurius Albinus, and being fearful of condemnation, he introduced into the forum, as the tribes prepared to vote, his robust and well clad family, and his agricultural implements, his heavy mattocks, his ingeniously constructed plows, and his well fed oxen, and then exclaimed—Behold! Roman citizens, my magic; but I am still unable to show you, or to bring into the market place, my *studies*, my constant *vigilance*, my fatiguing *labors*. Scarcely had he concluded, when he was absolved by public acclamation.'"

"It is in enterprise, study, unremitting study, vigilance and industry, more than in *money*, that the mystery of great crops and successful husbandry consists."

REMOVING STONES AND BUSHES.—The task of removing the stones and the growth of shrub oaks, and other bushes, is immense, a ton's weight of the former being, on an average, generally taken off from 6 or 8 feet square of ground. In addition to innumerable stones of from ten to one or two hundred pounds weight, are larger ones, imbedded mostly in the soil, weighing several tons. These are taken out by digging away the earth around them and blasting; the object of the first blast being to open a seam, and then the second blast splits the whole mass into several pieces, and throws it out of its bed; the work being done generally in autumn or forepart of winter, when the stones may be loaded on to a boat or ox-sleds, and drawn to any place where they may be wanted.

Large quantities are laid up into massive walls, from 3 to 7 or 8 feet thick, and 5 to 7 feet high. The fences on this farm are already built for generations to come, with but trifling expense in occasional repairs. Hundreds of tons of these stones have been buried in ditches in the bog meadow and on the wet lands, for the purpose of draining.

MANUFACTURE OF MANURE.—It will be readily conceived that a farmer of Mr. Phinney's skill employs every means the farm affords for making manure, the necessity and value of an abundant supply of which, to successful and profitable farming, he fully appreciates.

A stock of 60 to 70 head of cattle is stabled most of the time, night and day, in the winter, and the manure is thrown into cellars underneath, the bottoms of which are covered with peat mud, 2 or 3 feet deep, in order fully to absorb all the liquids from the manure. The floor upon which the cattle stand, is 4 or 5 inches higher than the passage behind, and the planks are just long enough for them to stand or lie down comfortably, which keeps them perfectly clean. Immediately behind them, is a trench, some 12 to 16 inches wide, and the thickness of a plank lower than the passage way, which, except in the very coldest weather, is filled with peat daily, in order to absorb the urine; and this and the solid excrements go into the cellar together, by which arrangement the compost is most perfectly intermingled.

The cellars at the time of my visit, were full to overflowing, and the workmen had commenced carting out their contents. While doing this, more peat-mud is added if thought advisable; the intention being to use two parts of this material to one of manure. The compost is laid up in square, compact heaps, well covered with peat or loam, and mostly used when a year old; it being deemed of importance that the gases shall be fully developed and absorbed by the peat before it is applied to the soil, whereby all evaporation or waste is prevented.

The pasturage is deficient for this large stock of cattle, the whole farm containing but 160 acres; and it is therefore necessary to feed them through the summer, mostly in the barn, and for this purpose, clover, corn, early rye, &c., are sown, to cut and feed green. The cattle have, however, a small pasture to range upon a few hours daily for exercise. The manure heap is increased greatly by this summer feeding, peat-mud being thrown into the trenches freely, every day.

Mr. Phinney had the misfortune to loose his house and extensive piggery last summer by fire, and he is not doing much just now in the way of breeding and rearing hogs. After the new house is finished, he will put up a new piggery, and resume this important department of his farming. He feels out of his element about these days, from being deprived of the valuable assistance, formerly rendered so cheerfully, by his friends the excellent Mackays and Suffolks, in manufacturing compost at the rate of eight to ten loads each, annually. As it is however, a stranger walking over the farm, wonders what is to be done with all that manure, as he encounters at every turn a huge pile of it. About a thousand loads are made annually on the farm, besides an occasional purchase in Boston, as for instance: 15 or 20 tons of refuse salt fish—of which he showed me a bill just received—which is mixed through the heaps. There are some thirty acres under the plow, annually, upon which this amount of manure is spread.

FIELD CULTIVATION.—The soil of this farm was, originally, a thin loam, resting upon a hard, gravelly subsoil. Mr. Phinney early became convinced of the importance of securing and preserving the vegetable matter of the inverted sod, in order to supply, as speedily as possible, that which was most wanting in his soil—vegetable substance. It was the universal practice among farmers, when he commenced, to plow, cross-plow and harrow their sod-lands, thus exposing the vegetable matter of the turf to the dissipating influence of sun and wind, and almost entirely losing its value. By this means a great part of the object of plowing was entirely subverted—what was the surface before plowing was brought to the surface again, and the lower stratum, which should, by one careful plowing, have been left on the surface to undergo the ameliorating and fertilizing action of the atmosphere, was returned to its lifeless and unfertilized, receiving little or no benefit by the operation. Believing this to be an error in practice, he instituted an accurate experiment to ascertain the amount of purely vegetable matter in an acre of sward-land, of very moderate fertility. This experiment, although made some twenty years ago, is still possessed of so much interest, and detailed with so much accuracy. and is, withal, so perfect a specimen of what the details of farming, for the press, should be, that I give below his own account of it:—

"In May, 1829, the field having laid three years to grass, and the crop of hay so light as to be worth not more than the expense of making, with a view of ascertaining the quantity of vegetable matter upon the surface, I took a single foot square of green sward, and after separating the roots and tops of the grasses from the loam and vegetable mould, it was found, on weighing, to contain nine ounces of clear vegetable substance, giving, at that rate, over twelve and a quarter tons to the acre. This convinced me of the importance of taking some course by which this valuable treasure might be turned to good account. That a great part of this mass of vegetable matter is exposed to useless waste, by the usual mode of plowing, cross-plowing, and harrowing, must be obvious to any one. In order, therefore, to secure this, as well as the light vegetable mould at and near the surface, which is liable to waste from the same causes, I had two acres of the green-sward of this field turned over with the plow as smoothly as possible. After removing the out-side furrow slices into the centre of the plow-land, and thereby effecting the double purpose of covering the vacant space in the middle, and preventing ridges at the sides and ends, the field was rolled hard, with a loaded roller, by which the uneven parts of the furrow were pressed down and the whole made smooth. It was then harrowed lengthwise the furrows, with a horse harrow, but so lightly as not to disturb the sod. Twenty cart loads of compost manure, made by mixing two parts of peat-mud, with one of stable dung, were then spread on each acre. It was then harrowed again, as before, and the poorer part of the soil, which had been turned up, and remained upon the surface, was thereby mixed with the compost manure. Corn was then planted in drills upon the furrow, the rows being at the usual distance, and parallel with the furrows. At hoeing time the surface was stirred by running a light plow between the rows, but not so deep, at this or the subsequent hoeing, as to disturb the sod. What Mr. Lorain calls the 'savage practice' of hilling up the corn, was cautiously avoided.

"As the season advanced, I carefully watched the progress of my corn-field. In the early part of the season it did not exhibit a very promising appearance; but as soon as the roots had extended into the enriching matter beneath, and began to expand in the decomposing sward, which had now become mellow, and more minutely divided by the fermentation of the confined vegetable substances beneath, than it possibly could have been by plow or hoe, the growth became vigorous, and the crop, in the opinion of those who examined the field, not less than seventy bushels of corn to the acre. As soon as the corn was harvested, the stubble was loosened up by running a light horse plow lengthwise, through the rows, the surface then smoothed with a bush-harrow, and one bushel of rye, with a sufficient quantity of herd's-grass and red-top seed, to the acre, was then sowed, the ground again harrowed and rolled. The crop of rye was harvested in July following, and the two acres yielded sixty-nine and a half bushels of excellent grain, and over five tons of straw. The grass seed, sowed with the rye, took well, and the present season I mowed, what those who secured the crop judged to be two and a half tons of the very best of hay from each acre.

"Thus, with one plowing, with the aid of twenty cart-loads of compost manure to the acre, I have obtained two crops of grain, and stocked the land down to grass."

Ever since that experiment, it has been his invariable practice to plow but once during a rotation of crops. The turf is carefully inverted and there remains, through the whole rotation; the subsoil, or what was before the lower stratum, remaining on top, is ameliorated and enriched by the action of the atmosphere, and the compost spread upon it. The poorer soil below has been gradually brought up, by deepening the furrow an inch or two at each sod-plowing, and I noticed that now, especially on fields that have been for several years under his liberal hand, the soil is deep and rich.

My attention was directed to a field of 12 acres, which he took in hand a few years since, an old orchard, which had been in grass for a long time, the soil thin, and the field covered with stone-heaps. These were removed, the field plowed about six inches deep, and the stones brought to the surface in the operation, picked up and carted off; thirty loads of compost to the acre were then spread on top and harrowed in, and the field planted to corn. The crop averaged between seventy and eighty bushels per acre, and the next spring the surface was loosened and leveled with the harrow; a compost of 6 bushels of lime to 3 loads, or 1½ cord, of peat-mud was spread, 12 loads per acre, and the field sowed to wheat. The yield averaged 20 bushels to the acre, of fine quality. At the same time it was stocked to grass with ½ bushel herd's-grass, 1 bushel red-top, and 10 lbs. clover seed, per acre. The seed took well, and the next year the job of making and securing the hay was let out, and judged by those to whom it was referred, to be 40 tons, when in the barn. The grass crop has been heavy on this lot for 5 or 6 years since.

This liberal use of grass-seeds has several advantages to recommend it to a more general practice among farmers. The soil is completely filled with the kind of vegetation wanted; and hence the quality of the hay is much finer, and rendered free from foul stuff, and a thicker and more valuable turf supplied with which to enrich the ground, when again broken up. I particularly noticed that the grass grounds on this farm were remarkably free from those vacant spots, and those large tufts of grass, which are so frequently seen on land seeded to grass by the hand of parsimony. The quality of the hay in the barn, also attracted my notice, as being excellent. If the poor soil and thinly set sward of 1829, had 12¼ tons of vegetable substance to the acre, the same field, in its present improved condition, probably has a sward containing 20 to 25 tons of this material, per acre—which, turned under for the support of the growing crops of the next rotation, is an item of no small importance.

We see, in connection with the foregoing remarks on Field Cultivation, why it is that farmers who have mainly to do with worn and hungry soils, of a sandy or gravelly nature, insist so strenuously upon the great value of a compost of two parts of peat-mud or swamp-muck, to one of stable-dung; considering it equal in its effects, load for load, to animal manure alone, in a rotation of crops. The fact is, that light, thin, sandy and gravelly soils, are particularly wanting in vegetable substance; and their nature is also such, that it is impossible any way can be fixed, to apply clear unfermented dung, without its being liable to great waste from the powerful operation of the sun's rays in evaporating the volatile portions of the manure, through the coarse, loose and open pores of the soil. But in resorting to the muck-hole, these farmers find the very material for the basis of the manure-heap, which their soils need, and by using it freely in compost with the manure of farm-stock, they are enabled to supply speedily and in large quantities, this vegetable substance. The compost being fully ripened, the gases all developed and absorbed by the muck, in the form of salts, we have a mass of vegetable matter to apply to these hungry soils, not so liable to the objection of loss by evaporation.

The skilful farmer also finds that his sandy or gravelly soil is generally too shallow, and he wishes to remedy the defect. He therefore, like Mr. Phinney, plows a little deeper at each breaking up, and the poor and lifeless soil, brought to the surface, is mixed thoroughly with the compost-dressing, and this, together with the action of the atmosphere, enriches and improves it. The vegetable matter of the sward is buried underneath, and thus a deep and fertile bed is formed, upon which the growing crops of the rotation may expand, and find nourishment to mature into a bountiful harvest.

The texture of these soils, as I have before said, is too loose and open, and this defect is greatly obviated by a few years tillage with the use of this compost; rendering the soil thereby more close and compact. In my opinion, such soils should always be manured with compost in some form. If the farmer has not muck at command, he may use clay, or a fine-grained, compact loam in its place, to excellent advantage: as by this means the texture of the soil is improved, and made more retentive both of moisture and manure. In short, it may truly be said, that there is no system of manuring, in field cultivation, of such *permanent* utility as a judicious mixture of soils.

I am not much given to *theory*, Messrs. Editors, although in the three paragrphs above I have indulged in it somewhat. You will please take it for what it is worth, and no more. The *practice* noticed in these remarks I believe to be correct, however wild the *theory* may appear.

In my next communication, I propose to notice:—

1st. Draining and reclaiming swamps and wet land.

2d. The fine orchards and their cultivation.

3d. Breeding and fattening swine.

4th. The imported stock of the "Massachusetts Society for promoting Agriculture," which is kept on this farm, and their treatment; with some reflections upon the subject.

F. Holbrook.

Brattleboro, Vt., Jan. 28, 1848.

Lands on the Canada Line.—Ex-Governor Hill, of New Hampshire, speaking of a trip he made along the Canada line, between Lower Canada and Vermont and New Hampshire, thus expresses himself:—"I was surprised at the extent and value of this whole country for farming purposes. I believe the belt of country for 100 miles south of 45th degree, and eastward of Lake Champlain, over Vermont and New Hampshire, through the whole extent of Maine to the Bay of Fundy and the sea, to be the most valuable tract of land in New England. The Canada townships, of ten miles square, farther north, are splendid. Stanstead may be taken as a sample. The best township of Vermont is said to be Derby, lying by the side of it. The cattle, and all the productions of these two towns are on a larger scale than we find down south."

Improvement of Land in Barnstable.—Charles Sears, of Yarmouth, paid in 1832, for his thirty acre farm, $350, then thought to be its full value. Its total product then, was pasturage for two cows, and 25 bushels grain. Now he pastures three cows, gets 10 tons of good hay, 200 bushels of grain, 100 bushels potatoes, &c. He has a cornfield of 4 acres, yielding 40 bushels per acre. Most is sand, a small part sand and peat—on a part of the latter, reclaimed, he cut the past season at the first mowing, at the rate of 4 tons of hay per acre.

SCOTCH AND AMERICAN PLOWS.

EDS. CULTIVATOR—The annexed remarks were written some time since, but were not thought by me of sufficient general interest to publish. Possibly you may judge otherwise. As a practical comment, it may be well to mention that I had a quarter of an acre plowed at our last cattle show, with the plow in question. The work was well done, within the hour, about an inch deeper, and an inch or two narrower than the requisition. The plowman, however, received no premium, which I took to be an indication that the ribbed and angular furrows did not please our farmers as well as the flatter and smoother appearance of the work done by our Worcester and other plows. W.

Lenox, February 14, 1848.

Many of your readers will have been struck with the extreme beauty and apparent completeness of the Scotch plow, as accurately delineated in "Stephen's Book of the Farm;" moreover they may have read such statements in regard to the perfection of English plowing as those made by Mr. Colman, who says, speaking of an English plowing match—"I do not misstate when I say, that I do not believe there was a variation of an inch in the whole field, in the width or depth of the furrow, or a single crooked line, or even one solitary balk;" and it may be interesting to them to know of some practical use of these celebrated plows in this country. No doubt there may be many of them in the country, but I have never seen any save one imported by me, nor have I seen any good account of them in our agricultural journals. I will, therefore, proceed to relate my own experience, and speak of its comparative advantages and disadvantages with reference to our American plows.

Fig. 30.—*American Plow.*

The accompanying sketches have been made in order to give, at a glance, the comparative proportions and size of each kind of plow. Fig. 30 being the usual form of the American plow as made by the best makers; fig. 31, the Scotch Iron plow; fig. 32, the Scotch plow, showing the underside, or portion that runs on the bottom of the furrow; and fig. 33, the corresponding portion of the American plow.

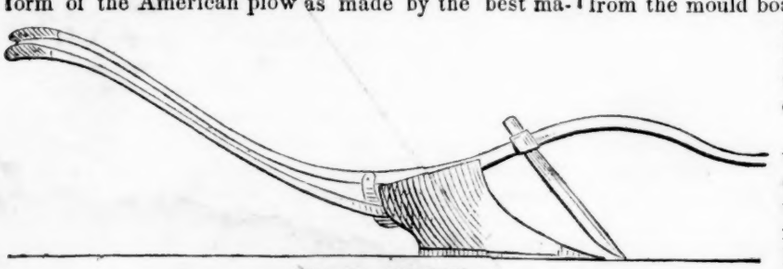


Fig. 31.—*Scotch Plow.*

It will be seen at once that these plows are constructed and must work on different principles; and before speaking of the action of the two instruments, allow me to show, in a few words, what are the principal points of difference.

1. The Iron plow is longer in every part, but chiefly in the handles, which are more than five feet, *horizontal measure*, in length from the mould board, whilst our plows are only about eighteen inches. The beam, on the contrary, is but little longer than ours. The landside, from heel to point, is about six inches longer, and the mould board to the extremity of the ear is also longer and more twisted.

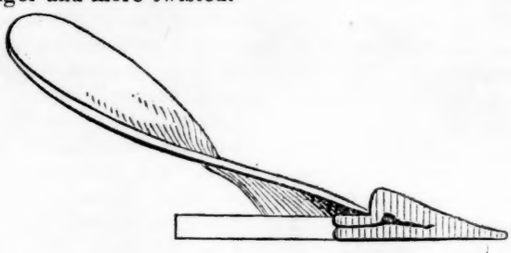


Fig. 32.—*Underside of Scotch Plow.*

2. The wing of the share, which is usually 10 inches wide in the American plow, is not over 6 inches in the Iron one. Consequently the latter does not cut the furrow much more than half off on the underside; but on the other hand it encounters fewer obstacles likely to disturb its motion, and avoids the friction occasioned by the cutting edge, both against itself, and against the landside.

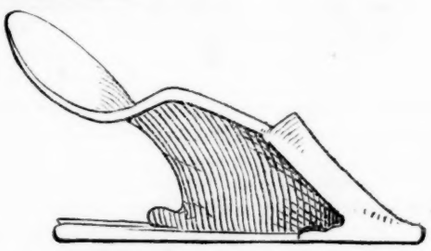


Fig. 33.—*Underside of American Plow.*

3. Owing to the above peculiarities, the plow moves so steadily that the coulter may be let down to the bottom of the furrow, thus cutting the slice completely off on the landside. In our plows the coulter cannot usually be let down without causing the plow to throw out.

4. The elevated beam of the Iron plow prevents all possibility of clogging.

5. The American plow has much iron cut away both from the mould board and the landside, whilst the other is whole on both sides. I believe the lessened weight is made up for in the increased friction where we plow over five inches.

6. The Iron plow rests all its weight on a shoe, say eighteen inches long by two and a half wide—the bottom of the mould-board does not touch the bottom of the furrow. In our plows the weight rests equally on the mould board and landside.

In a word, in the American plow the reversion is effected by causing the furrow slice to pass over the smallest possible surface of iron; and by keeping this in view the extreme of lightness is attained, sufficient strength, and the complete reversion of the furrow is effected. The plow weighing perhaps one-third of the iron plow, turns the same breadth and depth of furrow with a lighter team. But these admissions being made, and they are large ones, the palm of perfect work in every respect must be conceded to the admirable instrument we are considering. By its tapering form it enters the ground with ease, and moves with perfect

steadiness, taking no notice of obstacles that would throw our short plow out of the ground. Its long and twisted mould-board raises the slice, pulverizes it completely, and leaves it in its place with absolute regularity. The plowman, by means of its long handles, makes it move easily in a perfectly straight line, and the "work when done, resembles a ruffle just come from a crimping iron," as Mr. Colman describes it.

Taking for granted a superiority which two years trial has convinced me of, the question arises in what cases can an American farmer be justified in meeting the expense of first cost, say $20@$25, and of the additional force required to move it. For although two horses are in all cases sufficient, yet in a tough sward they must be much more powerful animals than our farmers usually employ. I should say then, that where the common system prevails, of going through a rotatation of corn and potatoes, grain and grass, with only two plowings, and those only 4@5 inches deep, our farmers have, in the common plows, as efficacious an instrument as can be contrived. But on the contrary, whenever an improved agriculture is introduced, roots grown extensively; wherever, in a word, first-rate plowing is required, and thorough tillage, the Scottish plow, or some analogous instrument, must be used.

I have often thought whether some compromise might not be effected, whereby we might combine the perfection of the one with the lightness of the other; but I have not felt satisfied that it can be done. The slender shape of the Scotch plow requires that there should be great strength, and consequently, weight of wrought iron about it. Its parts are already adapted to move with the least possible friction that will effect the object; and although one of our plows does not present more than half as much surface of iron to the furrow slice, it is my belief that if it were loaded with the same weight of the other plow, it would be much heavier of draught.

MANURES—THEIR NATURE AND ACTION.

The subject of Manures, what they are?—what constitute their active principles?—how they act in promoting vegetable growth?—as well as the best mode of preparing and multiplying them, is one that has been frequently discussed—filled many pages in our agricultural journals—and occupied the attention of some of the strongest minds devoted to the study of agricultural science. These facts we may adduce as evidence that the right understanding of this subject is regarded as the foundation of all correct and profitable farming. Not only is this remark true when applied to our day—it was so two thousand years ago. We learn from Pliny that the Roman farmers decreed immortality to Sterculius for inventing manures, while they themselves devoted much of their attention to their preparation. To this end, the *mineral* as well as the animal and vegetable kingdom were called into requisition. The directions left on record for preparing their compost heap, selecting a shallow basin, and advising to cover the top, when completed, with *twigs and branches of trees with their foilage*, convince us that they were aware the *sun* and the rain would dissipate their active principles. The value they placed upon human ordure, and the liquid excrements of animals, the use of fish and other substances as manures, satisfies us that they possessed much of the practical skill for which the Belgians of the present day have been so justly celebrated.

When I commenced farming operations, I had given but little attention to the subject of manures, and regarded it as of comparatively little moment; but as I progressed, it has risen in importance, until it is with me the absorbing subject about which, although I have learned many things, I am more anxious to receive instruction than on any other topic connected with farming.

Manures may be said to be the elements of fertility, containing both the inorganic salts, and the organic elements of vegetable growth. In common language, they are the *food of plants*. How plants take up and digest this food—first requiring it to be dissolved in water, that by their open mouths at the termination of their roots they may drink it in—then conveying it in appropriate channels up through the trunk and branches, to be elaborated in the leaf, where it appropriates to itself the elements that enter into its structure, and give out to the atmosphere such as are not essential to its growth—is the interesting study of the vegetable physiologist. On this department of the vegetable kingdom it is not our purpose at present to remark—but rather to inquire what are the elementary substances that contribute most to the growth and fertility of plants? With these, we must not fail to be familiar, if we would be wise in the adaptation of means to the end, by which only can we expect success in this interesting department of human labor.

Chemistry teaches us that four elementary principles enter into vegetable structure, and hence are termed *organic* substances—they are *Carbon, Hydrogen, Oxygen*, and *Nitrogen*. The first three are furnished by the atmosphere in sufficient quantity to meet the demand of the growing plant—the remaining elementary principle, *Nitrogen*, that enters into every part of the vegetable structure, and hence may be regarded as essential to vegetable as it is to animal life; while it exists in the atmosphere, is not furnished in sufficient quantity for the perfection of vegetable growth. And if we would obtain vegetable products rich in nitrogenized principles, we must surround the growing plant with animal or vegetable manures containing an additional amount of these principles. In illustration of this position, we find wild plants to contain less of nitrogenized principles than cultivated ones—and as the value of all vegetable food for animals depends on the amount of these protein compounds, wild plants are decidedly less nutricious.

It would seem, then, that one of the great problems for the agriculturist to solve, is how to furnish plants with the requisite supply of Nitrogen with the least expense? And the question, too, for the skilful farmer is to learn in what substances he can find the most nitrogen, and how he can preserve it in the volatile form in which we find it in nature, to apply to the soil. The great number of substances used as manures would seem to render this subject extensive and complex.

In the suggestions I have to make, I shall endeavor to show that the amount of nutriment which each manure can furnish to the support of vegetable life, will be in exact ratio to the nitrogen which it contains,—in other words, that manures are valuable to the farmer in proportion to the nitrogen which they contain, or have the power of forming nitrates.

It has long been known by our practical farmers, that our most common manures possessed very differ-

ent fertilizing properties, viz: the *Cow*, *Horse* and *Hog* manure, and human excrements. On what does this difference depend? We learn from chemical analysis, that the quantity of *salts* which they contain is very nearly the same in all, hence the inference is legitimate, that it does not depend on the salts—for if the salts were the source of their fertilizing properties, they would, contrary to the experience of practical men, be of equal value to the agriculturist. And so of the humic acid, or genine—for that is of equal quality in the horse and human excrements; but not so with the nitrogen, which exists in very different proportions.

The experiments made by the Prussian authorities, to ascertain whether the contents of the sewers, in the cities of Berlin and Dresden, could be applied with profit to the barren lands in their vicinities, are replete with instruction. Those experiments were made and continued through a series of years. The result satisfactorily demonstrated, that if a soil in its natural condition, without manure, would yield a crop of three to one, for the seed sown, it would with cow dung yield *seven*, with horse dung *ten*, and with human excrement *fourteen*. While analysis shows that this, their relative value, is just the relative proportion of nitrogen. Here then is science harmonizing with the experience of the practical farmer. While we can find science in the laboratory of the chemist, confirming, while it explains the experience of the practical husbandman, we are strengthened in following on in the pathway she would lead us. When science goes farther, and sheds her light where all before was darkness, we are rejoiced to follow reverently, if not confidingly, her teachings; but when those teachings conflict with what experience has demonstrated to be true, we should interrogate her farther before we venture to proceed.

Professor Johnston has told us, that the influence of ammonia on vegetation appears to be of a very powerful kind—it seems not only to promote the rapidity and luxuriance of vegetation, but to exert a powerful control over the functions of vegetable life. And again he says, the important influence which ammonia exercises over the growth of plants, is only to be explained on the supposition that numerous transformations of organic substances are effected in the interior of living vegetables, or a re-arrangement of the elements of which ammonia consists. Ammonia is a compound of *hydrogen* and *nitrogen*—and out of every 100 parts by weight of *ammonia*, we have 82½ of nitrogen. Ammonia is the form in which nitrogen is found in our manures, and is evolved as the product of the decomposition of animal and vegetable substances. If, then, this principle is the agent upon which fertility in the vegetable world mainly depends, as I have endeavored to show, we have a scale by which we may measure the relative value of manures, and by which our rules may be formed for the construction of our compost heaps, that will enable us to secure, with the least diminution, their active principles. Our senses will always discover to us the substances containing nitrogen from the tendency that characterises them to run into a state of putrefaction, and in the process of putrefaction to form alkalies; while other manures decay, without putrefying, and form acids instead of alkalies.

In the list of substances, valuable as manures, arranged according to their relative value, taking such a scale for our guide, we place first on the list those substances that have received the least care, and have been regarded by the generality of farmers as of the least practical value—I refer to the liquid excrement of *man* and *animals*.

In the composition of human urine, there does not enter a single salt which is not essentially an ingredient in all plants; its fertilizing property is found in the fact, that almost all the nitrogen that makes its escape from the body, makes its exit through the urine That amount, in a full grown man or animal, is equal to the amount of nitrogen contained in the food on which the body is daily fed—and as nitrogen is the only substance that forms *muscle*, and meets the daily muscular expenditure of every working man and animal, (unless there be other sources of assimilation than those now known to physiologists,) that amount is not inconsiderable. The urine of the horse is but little less valuable than that of man—and that of the cow but little less than the horse. When we consider with what ease these may be saved by means of absorbing substances, that are within the reach of every farmer, how can we justify their shameful waste? Repeated trials of their use, have abundantly satisfied me, that the increased growth of the crop to which they have been applied, has abundantly compensated for the little labor bestowed in their collection.

Next on the scale, according to their relative value, we have the excrements of our domestic fowls. Since their food consists mainly of nitrogenized substances, and as we have in all the feathered tribe, the liquid and solid excrement combined, we may readily understand why to the prudent farmer, the poultry-yard renders such efficient aid in increasing his resources. Analogous in its composition and value is guano—the excrement of the sea fowl. To those in the interior of the country, that have not at their command this rich fertilizer, an admirable substitute is found in the dung of the domestic fowl. In confirmation of the position that it is the nitrogen that contributes more than any of the salts to the value of *guano*, we may remark, that analysis gives us in the best article from 8 to 9 per cent. of nitrogen, while in those that have disappointed the agriculturist in their use, not more than 1½ per cent. has been found.

Next follow *blood*, and animal matter—the carcases of our domestic animals—as horses, cows, hogs, sheep, dogs, and fish; with their coverings—the hides, hair, wool, feathers, hoofs, horns, and nails, &c. Substances rich in nitrogen should be made to impart to beds of peat and loam, the ammonia that escapes during putrefaction, instead of "wasting their sweetness on the desert air." And when they have done this, the wise farmer will see to it, that the bones that have constituted the frame work of the animals, be restored in some form to the soil, and thus be made to give back to it the phosphates that have been abstracted by the successive crops that it has yielded.

Next follow the droppings of the domestic animals. The resources of the farmer will be much increased by composting the *horse* and yard manure with peat, with which the careful farmer will see that his yard is well supplied. By this process, not only are the gases which are evolved during fermentation secured by the peat, as an absorbent, but the mineral substances, and salts which it contains, locked up as they are by superabounding acids, are set free, and neutral salts are formed, by which the peat itself becomes almost as valuable to the farmer as the dung itself with which it is composted.

Science and experience harmonize in their testimony that when compost heaps are made under sheds, their active principles are more certainly secured, being saved from the wasting process of leaching under rains on the one hand, and evaporation under exposure to the burning sun on the other.

Protection from the rains would seem to be necessary from the fact, that whatever there is in manure that contributes to vegetable growth, must be soluble in water, for plants take it up in no other condition than that of solution. And on the other hand, if there is a large quantity of vegetable matter in a dry state, to be composted, experience has taught us, it should be

combined in some way with the liquid excrement of the animal, or else thrown into a compost heap immediately after a rain, when it is saturated with water. For such a requirement science furnishes us the following solution:—Ammonia, being a compound of *hydrogen* and nitrogen, water must be present in sufficient quantity to furnish the *hydrogen* to unite with the nitrogen, or instead of ammonia, we shall have cyanogen formed, which is also a compound of hydrogen and nitrogen; but the hydrogen is in a smaller quantity than what is requisite to form ammonia.

Among the artificial manures, peat may be used with great benefit, either alone, if exposed for a length of time to the ameliorating influences of the frost, rain, or atmosphere, or combined with the mineral manures, lime, pot-ash, or ashes. To the potato crop it may be used uncombined with mineral manures, not only to the increase of the quantity, but manifestly to the improvement of the quality—the abundant humus which it yields, contributing to increase the starch, upon which the mealiness of the potato, that we so much prize, depends.

The most satisfactory explanation of the action of gypsum as a manure, is that given us by Liebig—that it fixes the *ammonia* of the atmosphere for the benefit of the growing plant.

Charcoal, considered in itself, is one of the most indestructible substances—remaining unchanged, and apparently unchangeable in its form, for many years; and yet, from the increased fertility of the soil to which it has been applied, remaining long after the action of all other manures with which we are acquainted has ceased, and all traces of them has disappeared, it evidently possesses an influence on vegetable life as yet unexplained, unless it be its power of absorbing ammonia, and holding it in readiness to be given up to the growing plant, at every successive rain.

The importance which we thus attach to the influence and value of nitrogen in promoting vegetable growth, may, at the first glance, seem to war with the doctrine of special manures, as well as with the fact that a number of elementary inorganic substances, must always be present in the soil in sensible quantities; the absence of either one of which, without a doubt, will seriously affect vegetable growth. Such impression would seem to find support in the fact, that where in a particular field or section of country, from the growing of one crop a succession of years, instead of a system of rotation of crops, there has been an abstraction of one of these elements, the use of some manure containing a large quantity of that particular substance, will restore at once fertility to the soil, as was the case with the *grass* lands in *Cheshire*, in which the phosphates having been exhausted, *bone dust* proved more valuable than any other manure, and so of lime in other sections.

In such cases the action of the specific ingredient is only salutary, because in its use there is a restoration of a lacking element—the increased use of which instead of being salutary, often proves prejudicial to the interest of the farmer. To this fact we owe the expression, almost grown into a proverb, that lime, "while it enriches the father, impoverishes the son." Not so with nitrogen, or its compound ammonia—the more liberal its use, the greater the yield, and the better the tilth the soil acquires. The admission of the necessity for the presence of all the elementary inorganic substances in the soil, does not, in our judgment, at all invalidate the position which we have endeavored to sustain, that the value of manures in common use, may be measured by the quantity of nitrogen which they contain, or their power of forming nitrates.

Albany, March, 1848. J. M. WARD.

Facts and Opinions,

CONDENSED FROM BOOKS AND PAPERS.

USE OF CLAY ON SANDY SOILS—TWO CROPS ON THE SAME LAND AT ONCE.—The report of the committee on farms for the Hartford County Ag. Society, states that Mr. George Olmstead, of East Hartford, has greatly improved a piece of sandy land, which formerly produced very scanty crops, by mixing with it earth of a clayey nature. He is confident it has well paid him for the expense. The same report states that Mr. Olmstead has practiced cultivating two crops on the same ground at the same time, with advantage:—He plants, on early soil, potatoes in rows four feet apart; and after hoeing two or three times, he plants an early variety of corn between the rows. He believes that by this mode his ground yields him a much greater profit than when planted with but one crop.

UNDER-DRAINING.—B. F. Jewett, near Utica, lays two scantlings in the bottom of his ditches, 5 or 6 inches apart, and covers them with a slab. In quicksand, a slab should also be laid on the bottom. The ditch is then filled with earth.

BROWSE FOR SHEEP.—Hemlock, pine, and spruce, are found good for sheep. In new or wooded countries, much hay may be saved by the use of browse; and its succulence be useful and wholesome.

TO DESTROY SORREL.—Manure well early; plow deep early; harrow well; plant corn 3 or 4 feet each way; pass the cultivator through every ten days, till the middle of summer; then sow 12 lbs. of clover seed per acre, and pass the cultivator again. Clover will take the place of the sorrel.

USE OF RAILROADS TO FARMERS.—Three thousand six hundred gallons of milk, daily average, were taken over the Fitchburgh railroad to the Boston market, the past season. In consequence of the increase of this business, a special milk train is to be run every night, after the commencement of the coming season.

SHEEP KILLED BY DOGS.—N. Sawyer writes in the Ohio Cultivator, that over 300 sheep have been killed by dogs on his farm since March last. More or less are killed every week. They are caught by the throat, a hole is torn into the side, and a part of the ham eaten off. The dogs never again return to the same sheep, but attack fresh ones. A part of the sheep on this farm are of great excellence and value, and have been brought over 1,000 miles. Is not the great State of Ohio, with its government, strong enough to protect the property of its citizens from such losses?

RAPID GROWTH.—It is stated in the Germantown (Ohio) Gazette, that there is, near that place, a willow tree, only about 20 years old, which is 10½ feet in circumference, (3 feet 4 inches in diameter) 64 feet high, and 64 feet broad.

OHIO SWINE.—The Ohio Cultivator gives the number of hogs in each county in the State, according to census, for 1846 and 1847. In every one of the 83 counties the number has increased, except in two, viz: Champaign and Lawrence. In 1846, there were 1,405,621. In 1847, there were 1,751,318.

PRICES OF FARMS.—The Village Record, published at West Chester, Pa., gives a statement of the sale of 13 farms in that vicinity; by which it appears that the prices varied from $33 to $87 per acre, and that the average price for the whole was about $58 per acre.

COB STOVE WOOD.—P. Parks, of Victor, N. Y., states an interesting experiment in using cobs for fuel. Half his last year's fuel was cobs, from a few acres of corn. They burn quickly, and make a hot fire; an air-tight stove is best. A light tin shovel must be provided. Their ashes would doubtless be good for next crop.

WOOL-GROWING IN ILLINOIS.

EDITORS OF THE CULTIVATOR—The extensive circulation of your well known paper, induces me, a western man, to offer a communication which I hope will contain information of some value to those wool-growers in the east who may think of emigrating to the west, with a view of following the same occupation to greater advantage.

The great extent of the west, its various climates, the different age of its innumerable settlements, the presence of destructive animals, and their extermination at certain points, are all circumstances that may favorably or unfavorably influence the efforts of the new settler. The descriptions of new countries are, for the most part, of too general a nature. They speak of the salubrity of the climate, the fertility of the soil, woods, prairies and rivers, and the whole is but an outline of a grand picture. There is a great want in these communications of that precise information required by men of business. Many emigrants have been disappointed for want of accurate information of the circumstances of the country, as bearing on their particular occupation. The failures frequently complained of, need not have occurred had the emigrants adapted themselves to the proper localities. To wool-growers, a correct knowledge of the very spot to which they intend removing, is all important, and absolutely necessary to secure them from many risks. But experience alone can point them out.

I have resided in this immediate neighborhood for twenty-nine years, and during the whole of that time have been a flock-master, owning from three hundred to eight hundred sheep. For twenty-five years of that time the great drawback to the pleasure and the profit of sheep-keeping, was the presence of the wolf. The injury did not only incur from the numbers of the animals destroyed, and they were very great; but from the necessity of keeping the sheep safely penned at night, summer as well as winter. This practice was highly injurious to the condition of sheep and lambs, as well as to the growth of wool and weight of fleece. But so long as the wolf existed in the country, there was no remedy. The wolf has left this part of the country for the past three years. The first year it was conjectural, for no one dared to leave his flock abroad. But for the last three years my flock, and other smaller flocks, have laid out safely in the prairie range from April to November, night and day. This circumstance forms a new era in sheep husbandry here, and opens a new field for capital and enterprise in that branch of business. Those who are conversant with sheep will allow, that every sheep suffered to repose in its own pasture, night and day, will pay its owner half a dollar a head more than one that is penned at night, especially where summers are long and warm as they are here.

The part of the country of which I am speaking, is in Edwards County, Illinois, a little south of Albion, the county town, in latitude 39. The easiest route to it from the east, is to descend the Ohio to Mt. Vernon, Indiana, thence to Harmony, 16 miles—from Harmony to Albion, 20. If Wabash boats are running, a passage may be taken at Cincinnati on one of them as far as Grayville on the Wabash, which is ten miles from Albion. The prairies of which I speak, lie between the Great and Little Wabash—10 miles from each, at an elevation of *one hundred and sixty* feet from both. Drained by these two rivers, the prairies between them are *rolling, high, and dry.* The soil is fertile, and takes grass well. The winters are short, and generally mild. Where there is an abundance of tame grass, sheep will get their living without much fodder, all through the winter. The cold weather that occasionally occurs in December, January and February, comes in short paroxysms, with long spells of intervening mild weather. Snow seldom lies more than three or four days together. A fall of six inches is a deep snow with us. Shelter is quite necessary for all domestic animals; for they, like man, feel more sensibly the cold spells of weather in our mild winters, than those inured to the severe and steady cold of a more northern winter.

The improvements made by the emigrant will be of a permanent or temporary nature, according to his capital and ultimate views. A shed with clap-board roof and faggot back, is all that is necessary for the sheep. A house of any description may be erected, from a snug log cabin to a mansion of brick, frame or stone. Abundance of materials being at hand, and workmen ready to erect them. The price of land is quite moderate. Choice situations for sheep-keeping may be found at from four to six dollars per acre. By choice situations, I mean those elevated and rolling situations in the clear prairie, that require no previous expenses but the fencing, to their immediate cultivation. A few grubs and hazel bushels, entail an expense of five dollars per acre, and heavy timber ten. The prairies are of moderate size, bounded by woodlands, and interspersed with clumps of full grown oaks, affording an agreeable shade to sheep and cattle, which is essential to their comfort and condition during the summer months.

The facilities we have of steamboat navigation, allow us to deliver our wool into any eastern manufactory at an expense not exceeding two and a half cents per pound.

Nothing can exceed the beauty of the park scenery of this country, its fertility, and generally inviting aspect. Neither must the emigrant think that he is leaving civilization and the comforts of life by coming here. The artificers of iron and wood are numerous and skilful in our small towns, making every tool and implement that the farmer needs. Well stocked stores supply our household wants. Churches and schools are well established. The whole United States cannot show a more peaceable, industrious, and contented population.

In the neighboring State of Indiana, common sheep may be bought for 75 cents or $1 per head. In this vicinity superior sheep of the finest wool, are from five to twenty dollars individually. But the chief object of this extended communication, was to give notice to my brother shepherds of the *absence of the Wolf*, a circumstance in itself that may give success, when his presence would assuredly entail a loss, or perhaps inflict a failure.

The astronomer who patiently watches a plane in the heavens for a quarter of a century, records perhaps the disappearance of a well known star, or the discovery of a new one. It is by recording these simple facts that the science of astronomy has so astonishingly and steadily advanced. If farmers would follow this safe example, and give *facts* instead of theories, agriculture would make a more steady advance, and the recorded communications of its journals would be received with greater reliance. GEORGE FLOWER.

Park House, near Albion, Edwards Co., Ill., Jan. 24, 1848.

Diseases of Animals, &c.

Disease in Swine.

I wish to inquire through the Cultivator, in regard to a disease in swine from which I have suffered loss. In September last, I noticed that one of a litter of ten pigs, which had been farrowed in March, (and which were of good size—would weigh from 150 to 200 lbs. each,) was attacked with what is called the thumps or heaves. In about 24 hours it died. In a few days another was attacked, and soon died, and they thus went off, one by one, till I lost nine out of the ten. I kept for my store hogs about a dozen pigs that came in September; and they are going in the same way. They die at the rate of about one a week. They never live more than 24 hours after I discover the first symptoms of the disease. As soon as one appears to be affected, I take it away from the rest. I have given sulphur and everything I could hear of that would be likely to help them, but all to no purpose. PETER S. HICKS, *near Wilmington, Delaware.*

The disease in swine called "thumps," we have no knowledge of, though we may have met with it under some other name. In the 8th volume of the Cultivator, page 32, it is stated that Dr. Shelby, of Tennessee, had used calomel for this disease with some success; but the quantity given, or the manner of administering it, is not given. We invite the suggestions of those who have any knowledge of the disease and its cure.

Hoof-ail, or "Foul in the Foot."

This is a disease which affects the feet of cattle in a similar manner to what the feet of sheep are affected by the "foot-rot." Some have supposed that the diseases are in fact identical; but attempts have been made to innoculate cattle with the virus from sheep having the foot-rot, which failed; and this has led to the conclusion that the two diseases are confined to the species of animal in which they appear.

Hoof-ail, like foot-rot, though it may originate spontaneously, or from accident, is, when once induced, believed to be contagious, and hence, when an animal is discovered to be affected, it should be kept by itself till the danger of communicating the disease is passed.

The first indication of hoof-ail, is a soreness and lameness in whichever foot is attacked. If no remedy is applied, the disease progresses rapidly—there is more or less swelling immediately above the hoof and about the pastern joint, accompanied frequently by great heat and high inflammation. The hoof soon separates from the skin on the inside, between the claws, and in aggravated cases the hoof sometimes cleaves off. The disease appears to occasion the animal great pain through its whole course.

The first thing to be done towards cure, should be to cleanse the foot thoroughly by washing in strong soap-suds, or a lye of wood-ashes. Examine the inside of the claws, and if there is any appearance of pent-up matter, pare away the hoof so as to admit a free discharge. Apply a solution of blue vitrol wherever the disease is manifested, and this wash may be repeated with advantage once or twice a day, till the disease is evidently subdued. A pledget of tow, saturated with tar, and bound in between the claws, has been found useful in healing the foot after the other applications have been used.

YOUATT recommends bleeding in the coronet, (the junction of the hoof with the skin,) where there is much swelling and inflammation. The animal should be kept in a dry place; a comfortable stall or shed is the best situation.

Domestic Economy, Recipes, &c.

Preserving Meat Fresh.

It may be of some benefit to a portion of your patrons to know how a few citizens in this section have managed, this warm changeable winter, to preserve their beef, pork, poultry, and other fresh meat, for some time in good condition.

One successful method has been practiced by placing one *cask* within another, packing straw between the two, on the bottom and around the sides. The meat was frozen, and packed in straw within the inner cask, secured well at the top from air during the warm weather.

Col. Smith, of Bristol, slaughtered a large number of fat weathers, which he designed to market in the carcass; but the warm spell of weather in the month of November, which was so destructive to fresh meat in this region, caused him to boil them up for their tallow only. The next cold turn, he dressed off about 300 of poultry—a sudden change soon after was threatning them with a sweat; but having at hand an abundance of fresh sheep's pelts, he concluded, by way of experiment, to try their virtues upon his fowls, and accordingly spread a layer upon a floor 5 or 6 deep; then after stacking his poultry upon them, covered them well over with the same in so nice a manner as to keep out the warm air through several severe thaws, before he was blessed with snow enough to sleigh them into a northern market, where they in due time arrived in good condition. Had he known previous this method of saving his meat fresh, it would have told him dollars, by thus keeping his fat mutton. S. W. JEWETT.

FINE PICKLED CABBAGE.—An exchange paper gives the following directions for making this excellent and wholesome relish:—Shred red and white cabbage, spread it in layers in a stone jar, with salt over each layer. Put two spoonsful of whole black pepper, and the same quantity of allspice, cloves and cinnamon, in a bag, and scald them in two quarts of vinegar, and pour the vinegar over the cabbage, and cover it tight. Use it two days after.

PUMPKIN BUTTER.—Boil a barrel of sweet cider down one-third, then add gradually two bushels of small cut pieces of pumpkins, stirring all the while, until boiled to about 12 gallons. Just before taking off, add half a pint of ground cinnamon, and such other spices as may be agreeable. Fine, where apples are scarce, and said to be excellent for king or countryman, the latter deserving it best.

SWEET APPLE PUDDING.—Superb, cheapest, and best, proved by repeated trial: 1 pint scalded milk, ½ pint Indian meal, teaspoon of salt, an equal bulk or more of sweet apples cut small—baked at least three hours.

PRESERVING APPLES.—"Lock them up in a dry cellar, and hide the key," says a cotemporary.

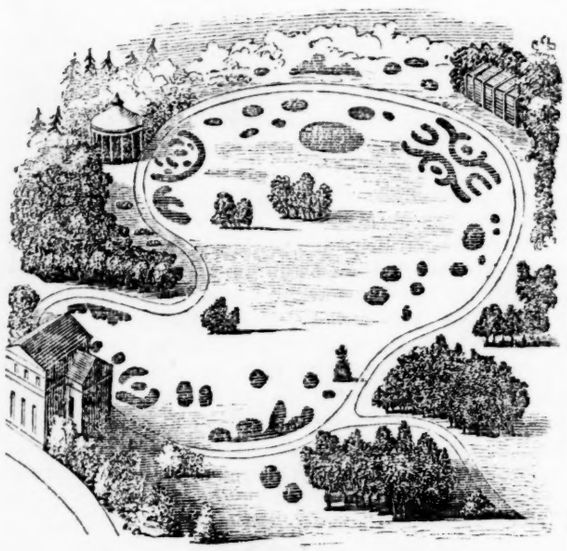
TO TOAST CHEESE. *Very fine.* Slice it into a saucepan, with a little butter and cream. Simmer very gently till quite dissolved. Remove it from the fire, let it cool a little, add some yolk of egg, well beaten; make it into cakes, brown it before the fire, and eat warm.

PRESERVING HAMS.—A canvass cover for each ham, well whitewashed, is an infallible protection of hams against flies. They may also be well kept in dry sawdust.

WHITEWASH FOR FENCES.—One ounce white vitrol, (sulphate of zinc) 3 ounces of common salt, to every 3 or 4 lbs. of good fresh lime, it is said, render it very durable, exposed to the weather.

HORTICULTURAL DEPARTMENT.

CONDUCTED BY J. J. THOMAS.



The Shrubbery and Flower Garden.

Nearly all the flower gardens of the country are laid out in geometrical lines; a style, it is true much better adapted to the small piece of ground allotted to flowers, than to the larger landscape garden composed of trees, lawns, and sheets of water. With a wish however, to encourage a more graceful, pleasing, and picturesque mode of laying out even the small flower garden in connexion with the shrubbery, we have given the above plan, which nearly explains itself. It is merely necessary to remark, that the boundary of the grounds is composed chiefly of trees and shrubs, the more central portion being devoted to flowers. The latter is a very smooth and closely shaven green, around which the walk passes, the beds being cut into the turf and raised scarcely above the surface. Most of them are simple circles or ellipses, the shape of which is easily preserved; but a few are of the arabesque, or the more complex geometric form. The latter are only introduced at those points in front of the dwelling, and of the green house (or grape house) at the right, and the circular seat at the left.

The space thus occupied may be from a quarter of an acre to two acres. If laid out and planted with skill, it will present an infinitely more pleasing appearance, and variety of aspect, than the geometric garden. It entirely removes that most disagreeable feeling of constraint, with which one feels his mind fettered, when trying to draw pleasure and beauty from straight lines and stiff curves. But no one should think for a moment of attempting this mode, unless he can mow the surface of the lawn once a week, and keep the walk as smooth and hard as a floor, besides preserving the shrubbery and flower beds in the best order. Less labor, however, is required to keep such a flower garden as this *of a given size*, than one of any other arrangement. Certainly we derive a great deal more of genuine beauty from the work of our hands, by the adoption of this than by the old-fashioned style.

To give proper directions for executing such a plan, to one who has not looked into the subject, would require a greater number of pages than we have already written lines; we must therefore leave this part of the subject, for the purpose chiefly designed at commencement, of giving a short list of some of the best ornamental hardy shrubs and flowering plants, to assist the selection of those who, at the present season, may be about commencing small ornamental plantations; beginning first with shrubs, in the order of their season of flowering:

EARLY SPRING FLOWERING.

Daphne mezereum (pink mezereon) is covered with a dense profusion of pink-lilac, flowers almost as soon as the frost leaves the ground. Berries poisonous.

Cydonia japonica, Japan quince, is a shrub of slow growth, but when several years old and full of its dazzling red flowers, it presents a mass of great brilliancy, and there is nothing at this season to supply its place.

Amygdalus nana, dwarf double flowering almond, densely covered with pink flowers, resembling masses of miniature roses.

Ribes aureum, Missouri currant, yellow flowers of moderate beauty, but delightfully fragrant.

Shepherdia argentea, Buffalo berry, flowers early, but its chief beauty is the autumn, when loaded with red berries.

LATE SPRING FLOWERING.

Ribes sanguineum, scarlet currant, needs some protection in winter—its dense masses of fine red flowers render it very showy. A new double variety, is still finer.

Xylosteum tartaricum, tartarian honeysuckle, flowers varying from white to pink, thickly sprinkled among its small glossy leaves, are unexcelled in beauty. A striped variety is exceedingly delicate and fine.

Philadelphus grandiflorus, with its large clear white flowers, is more showy than *P. coronarius* (syringo) which however excels it in fragrance.

Halesia tetraptera, silver bell tree, handsome pendant white flowers.

Spiræa hypericifolia, flowers white, small, abundant—pretty.

Kerria japonica, Japan globe-flower, flowers double, yellow—often continues flowering till late autumn.

Berberis vulgaris—barberry—yellow flowers in handsome racemes, with showy red berries in autumn.

Calycanthus floridus, sweet scented shrub, flowers blackish purple, valued for their great fragrance.

Robinia hispida, rose acacia, large, handsome rose flowers—succeeds best in light soils.

Syringa vulgaris, common lilac, purple, red, and white. *S. chinensis*, Siberian lilac, is of lighter and more graceful growth, and when large, presents a splendid appearance.

Chionanthus virginica, white fringe tree.

EARLY SUMMER FLOWERING.

Viburnum opulus, snowball, well known for the splendor of its large balls of brilliant white flowers.

Rhus cotinus, purple fringe tree, becoming remarkable towards autumn for the feathery investment of its large panicles, resembling clouds of purple mist among the foilage. Singular and much admired.

Cytisus laburnum, common laburnum or golden chain; its pendant racemes of fine yellow flowers give it a very elegant appearance.

Symphoria racemosa, snowberry, well known for its pure-white berries in autumn.

[During this part of the season, roses make a most brilliant display. Among the thousand varieties named in catalogues, even a select list would be too long for this article; but the culturist may content himself, if he can procure as fine ones as the *Queen of the Prairies*, *Baltimore Belle*, and old and new *Crimson Bour-*

salts, for training; the *Persian Yellow* and *Scarlet Austrian*, for early flowering small roses; *La Reine*, *Madame Laffay*, and *Marquise Boccella*, among hybrid perpetuals, which flower till winter, and are quite hardy; *George the fourth*, *Bonne Geneveive*, and *Brennus*, of hybrid China roses; and *Souvenir de Malmaison*, among Bourbons, and *Madame Hardy*, among white roses.]

LATE SUMMER FLOWERING.

Hibiscus syriacus (althæa) single and semi-double, white, shaded with purple; the double varieties have less beauty of form.

Magnolia glauca, large handsome white flowers, of rich appearance.

Æsculus macrostachya, dwarf horse-chestnut, flowers in large showy spikes of clear white.

Spiræa tomentosa, flowers in reddish purple dense terminal racemes.

Everblooming roses form the most interesting and showy display from this time till late autumn.

CLIMBERS.—Some of the most interesting are, the *Bignonia radicans*, trumpet flower, with its dark rich, trumpet-shaped corols; *Bignonia grandiflora*, with very large rich orange flowers, sometimes in magnificent racemes a foot long,—slightly tender; *Aristolochia tomentosa*, and *A. sipho*, handsome, delicate twiners, with singular pipe-shaped, but not showy flowers; *Clematis virginica*, or native clematis, flowers in fine white clusters; *Atragene americana*, flowering early; purple; *Periploca græca*, with a dense growth of fine glossy foilage; *Ampelopsis hederacea*, often covering the entire trunks of large forest trees, reddening to a brilliant scarlet in autumn; and several species of *Lonicera* or twining honeysuckle.

HERBACEOUS PERENNIALS.

(*Average season of Flowering at Albany and Rochester.*)

FLOWERING EARLY PART OF 4 MO.—(APRIL.)

The *snow-drop*, *crocus*, *winter aconite*, *Pansey*, *Siberian squill* and *Persian Iris*, are the earliest spring flowers in open ground. The last is a plant of great beauty and fragrance. The *Erytheonium dens-canis* of Europe, is a beautiful reddish purple flower, and one of the earliest, appearing before either of the American species. The Siberian Squill is a small but very graceful plant, with fine brilliant deep blue flowers.

The *Hepatica triloba*, with its various shades of pink and purple, and with pure white; and the *Claytonia virginica*, with its beautiful pink striped flowers, —are both common natives of our woods, and are among the earliest when transferred to the garden.

The many varieties of *Primula veris* (cowslip, &c.) presenting yellow, orange, red, lilac, and purple, with their various shades; and with flowers single and double, from half an inch to an inch and a half in diameter,—are among the finest ornaments of early spring. The *hyacinth* is well known for its beauty, fragrance, and endless varieties.

FLOWERING LATTER PART OF 4 MO.

Our native woods furnish several fine early flowers; among them, *Sanguinaria canadensis* (bloodroot) and *Anemone thalictroides*, both with white flowers; *Corydalis cucularia*, of delicate growth and white recemes; *Erythronium lanceolatum*,* yellow, and *Pulmonaria virginica*, pale liquid blue, both elegant plants; while the minute *Houstonia cærula* and *H. cilislata*, though natives, are of rarer occurrence. *Phlox reptans* is a fine purple-red flower. The several species and varieties of *Narcissus*, are a showy family of plants. The *crown imperial* (Fritillaria imperialis) is a stately and handsome, but not brilliant flower, and *F. meleagris*, is less showy, but singular. But the *tulips*, with their numerous shades of nearly all colors, variously intermingled and variegated, with nearly unsurpassed brilliancy and gaiety, eclipse all other flowers at this season.

EARLY PART OF 5 MO.—(MAY.)

Aquilegea canadensis (native columbine) with flowers of combined yellow and red-orange, is brilliant and elegant. *Phlox divaricata*, from the woods, with white variously shaded with blue and purple, is a handsome flower. Phlox subulata, moss pink, is extremely showy in masses, covering whole square yards with an unbroken mass of flowers. *Phlox setacea*, is a more delicate and less rapid grower, but nearly as showy; and a variety of the latter, with flowers of snowy whiteness, though slightly tender, is a desirable plant. The *auricula*, flourishing only when shaded, is remarkable for its clear rich hues of yellow, red, and purple. Among other plants flowering at this season, are, *Dodecatheon meadia*, reddish purple and white, an elegant plant; Delphinium tricorne, a fine early blue larkspur; *Convallaria majalis*, lily of the valley, with pretty white flowers; *Polemonium cæruleum*, blue; *Silene pennsylvanica*, red; *Corydalis glauca*, purple and yellow; *Veronica spicata*, blue.

LATTER PART OF 5 MO.

Trillium grandiflorum, white; *Veronica gentianoides*, blue; *Geranium sanguineum*, red; *Trollius europeus*, yellow; *Phlox ovata*, rose; *Pœonia tenuifolia*, dark crimson,—are all fine though not splendid plants. Some double varieties of *Aquilegea vulgaris*, or garden columbine, are very rich and fine. The genus *Iris*, with its many showy species of blue, purple, yellow, variegated, mottled, and white, forms a very conspicuous group. But the most splendid flowers are the Pœonias—among the finest of which are the *Pœonia albiflora*, with its varieties,—*Whitleii*, pale pink becoming white, in large globular double flowers five to six inches in diameter,—*Humei*, dark rose, large and densely double,—and *Fragrans*, red, not so large, but very fragrant; P. Pottsii, with flowers of dark rich velvet crimson; P. Reevesii, splendid double rose; and the rose and pink varieties of *P. officinalis*. These are all perfectly hardy, and of very easy culture, the double flowers usually varying from four to six inches in diameter.

EARLY SUMMER FLOWERS.

Among those which are decidedly of the first class for ornament, are the following:—*Dictamnus fraxinella*, with its white and purple varieties; *Phlox maculata*, fine red; *Spiræa aruncus*, with large feathery plumes, and *S. filipendula*, smaller and of clearer color —both white; *Clematis erecta*, from two to four feet high, a mass of white bloom; *Gladiolus communis*, red-purple; *Campanula persicifolia*, blue and white, the double white variety truly splendid; *C. grandiflora*, with large, blue, rich flowers, and elegant growth; *Digitalis purpurea* (fox glove) richly dotted purple, and white; *Lythrum salicaria*, and *L. virgatum*, purple; *Orchis fimbriata*, with beautiful fringed purple spikes, native; and *Papaver orientale* and *P. bracteatum*, oriental and Caucassian poppies. *Papaver nudicaule*, a biennial, is one of thefinest clear rich yellow flowers.

MID-SUMMER.

The duration of the earliest flowers of spring, is of but few days at fartherest; but as we advance in the season, the period of each plant is greatly prolonged, many in summer and autumn continuing for several weeks. Hence a fewer number is required to maintain a continued bloom.

Some of the finest flowers of mid-summer are the following:—

Spiræa ulmaria, pure white; and *S. lobata*, pink-

* This fine early flower, sometimes called "*dog-tooth violet*," is evidently the plant described in Bryant's "*Yellow Violet*,"—there is, however, no more propriety in dropping the first part of the name, and calling it simply a violet, than to call a certain bird, known as a *titmouse* (plural tit-mice?) a *mouse*.

purple, flowers in the richest fringed or feathery masses.

Lilium canadense, dull orange, but very elegant in form, and *L. candidum*, common white lily.

Chelone barbata, red-orange.

Catenanche cærulea, blue.

Spigelia marilandica, red.

Monarda didyma, scarlet.

Phlox paniculata, light red.

Nuttalia digitata, purple.

Liatris spicata, and *L. scariosa*, purple.

Lathyrus latifolius, (perennial pea,) purple.

Yucca flaccida, white. A rich, elegant, and showy plant.

Campanula carpatica, blue.

LATE SUMMER AND EARLY AUTUMN.

Many of the preceding, continue flowering into autumn. The following may be named in addition:—*Dracocephalum virginianum*, red-purple; *Cassia chamæchrista*, and *C. marilandica*, yellow; *Lilium tigrinum*, (tiger lily,) red-orange; *Hibiscus palustris*, and *H. carolinense*, rose-red; *Gentiana saponeria*, blue, and *G. crinita*, light blue; *Aster novæ-angliæ*, purple.

Dahlias form the most splendid autumnal show of herbaceous perennials, but as is well known, are tender and often difficult to winter.

ANNUALS constitute a very fine department of late summer and autumn flowers, immediately following the season of herbaceous perennials. They need, as every one knows, yearly renewing by seed, and hence many neglect them on account of the care of sowing and seed-saving. Among the finest annual flowers are the following:—*China Aster*, many varieties; Yellow and purple Sultans; Cypress vine; Globe Amaranth, Balsams; African Hibiscus; Nasturtium; Scarlet Portulacca, Drummond's Phlox; Petunias, of several colors; Two-colored Collinsia; Dwarf Convolvulus; Mexican Ageratum; Three-colored Gillia; Dwarf Larkspur; Golden Coreopsis; Showy Calendrina; Scarlet Cacalia; French Marigold; and Dwarf Lupin.

Tender and greenhouse plants afford many valuable additions to summer and autumn flowers. Many interesting additions might also be made to the preceding lists, did space permit; but our object at present is to furnish only a select and limited collection, to assist those but partially acquainted with them, and who wish to cultivate but comparatively few.

Abstract of Remarks on Various Pears,

DESCRIBED IN THE FIRST VOL. OF THE HORTICULTURIST.

(*Continued from page* 87.)

FLEMISH BEAUTY—Cheever Newhall (416) recommends this pear for strong rich soils. J. J. Thomas (480) says it is "a large, fair and productive variety, and though not of first rate flavor, proves worthy of cultivation." First of November.

FONDANTE D'AUTOMNE—Mr. Ives of Salem, Mass., (279) says "that no autumn pear surpasses the Fondante d'Automne." Mr. Downing observes, "we have always found this variety truly delicious." Last of September.

GLOUT MORCEAUX—M. P. Wilder (21) says of this: "It is truly an excellent, rich, sugary pear. The tree is hardy, a great and constant bearer; but it requires, like most pears, good cultivation. Few varieties succeed so well on the quince as the Glout Morceaux; a tree of which in my own ground, annually produces a barrel of large perfect fruit." Otis Johnson (146) says the Glout Morceaux does not succeed well in his garden at Lynn, Mass. His trees of this sort are on "quince stocks—of good size, and all quite thrifty. The fruit sets plentifully, but blights and falls at an early stage, and this is the only variety under my cultivation that blights." Downing (146) remarks, that though highly valuable elsewhere, it may prove too delicate to be worthy of cultivation quite so near the sea, even on quince stocks. Cheever Newhall (415) recommends the Glout Morceaux for strong, rich soils. December.

HEATHCOT—Downing (241) makes this one of a select list of twelve. Cheever Newhall (415) considers it one of the best. Downing (417) thinks this pear has not been rated as highly as it deserves to be, and states that Col. Wilder, after several years trial, considered it nearly, if not quite equal, to the White Doyenné. "When we add to this that the tree is thrifty, and a good and regular bearer, that the fruit does not crack or blight, we cannot but consider the Heathcot worthy of being adopted into a select list of fruits, of the first quality, for orchard and market cultivation." Middle and last of September.

JARGONELLE—Cheever Newhall (415) considers this and the Madeleine the best quite early pears, which, however, he says cannot "be classed as first quality." J. J. Thomas says (480)—"The Jargonelle is a fine early pear, rather course but quite rich in flavor, and needs indispensably house ripening, not only to perfect its flavor, but to prevent the inevitable rotting at the core when left too long on the tree." Last of July and first of August.

LOUISE BONNE DE JERSEY—Otis Johnson (278) named this, as in his opinion, the best fall pear. "The Louise Bonne de Jersey," he said, "is the most productive on young trees of any pear I cultivate; and I think if I could have but three, I would be forced to include it; yet I may alter my opinion when the trees become older."

MADELEINE—J. W., Baltimore, says (99)—"The Madeleine pear is now (July 14th) in perfection with me. It has fruited for two years past; but I am obliged to say that generally it does not ripen well. It is apt to rot at the core." Mr. Downing in a note to the above says: "The Madeleine, and we may add, almost all other pears, *must be ripened in the house*. If left to ripen on the tree, they have little or no flavor, and soon decay." Cheever Newhall (415) writes—"For early fruit the Madeleine, (or Citron de Carmes,) ripening in my garden the last of July, and the Jargonelle about ten days after, are the two best pears of the season, but cannot be classed as first quality. * * * With me the Madeleine succeeds well on its own roots, but on quince roots it cracks, is very astringent and worthless." J. J. Thomas remarks (480) that with him the Madeleine maintains its high character. Middle and last of July.

NAPOLEON—W., of Baltimore, says of this pear—"When in Paris, at the end of September, the Napoleon was one of the principal pears in season; it is juicy, but not high flavored."

ONONDAGA—*Swan's Orange*—Downing thus speaks of this new variety: "A fruit of the first size and quality, in all respects; supposed to be an American variety. * * * As a productive and vigorous tree, and a large and most excellent fruit, it has probably not one superior as an October pear."

OSBAND'S SUMMER—This is a popular variety in the neighborhood of Rochester. W. R. Smith, Macedon, N.Y., says of it: "This beautiful and excellent native pear has acquired considerable notoriety in this vicinity, and is destined, without doubt, to take rank with the best of its season. * * * It is a fine grower, and bears young and well. * * Size scarcely medium." Early in August.

OSWEGO BEURRE, or *Reed's Seedling*—Downing (324) says of it—"It combines, in a great degree, the finer qualities of the White Doyenné and the Brown

Beurrè; is a remarkably hardy, thrifty sort, an early and abundant bearer, and will undoubtedly soon become a very popular variety. Fruit of medium size. * * * It ripens at the same time with the White Doyennè, and keeps well. From its early and abundant bearing, and its gradual maturity, it is admirably calculated for a market fruit." J. W. P. Allen, Oswego, (533) considers this pear the most valuable known at the north, for general cultivation, on account of its early and profuse bearing, its fine flavor, good size, and general hardiness. He considers it an early winter, rather than a fall fruit.

Passe Colmar—M. P. Wilder (21) thus speaks of this well known pear—"As a hardy, vigorous excellent pear, the Passe Colmar has few superiors. It is prolific to a fault, and requires judicious management. To insure fine fruit it is necessary to commence the trimming process as early as the best specimens can be distinguished. Mr. Wilder recommends this as one of the *best five winter* pears. Cheever Newhall (415) says—"The Passe Colmar seldom attains perfection, unless the fruit spurs are severely pruned out in the spring, or the fruit thinned when quite small." J. J. Thomas (480) says—"the same objection occurs here to the Passe Colmar, as at Dorchester, the fruit very rarely attaining perfection under ordinary management." November to February.

Pratt—A new Rhode Island pear. Downing (210) says "there is every reason to believe that among the many sorts annually offered to public notice, most of which prove indifferent in quality, this will be an exception—a fruit of real merit." Size above medium. September.

Seckel—This little world-renowned "mouth-water," patiently receives the encomiums of all. W., of Baltimore (197) says: "I was told in England, by gardeners and fruiterers, that the Seckel was the best flavored pear known, but that it would not keep in their climate." John C. Lee (279) considers it, all in all, the best fall pear. Downing (279) recommends it as the best fall pear for gardens south and east of Newburgh. J. J. Thomas (480) observes that the Seckel maintains its high character with him. August to October.

Skinless—Of this J. J. Thomas (480) says—"The Skinless is one of the freest growers of all pears, is abundantly productive, and always bears fair and uniformly good fruit, though not rich and high flavored. It ripens before the Bloodgood, and, all points considered, is one of the most desirable early pears, especially on clayey soils." First of August.

Urbaniste—Cheever Newhall (415) remarks—"The Urbaniste is more sure of producing a crop of *well-ripened* fruit, than any other variety I cultivate except the Bartlett and Vicar of Winkfield." J. J. Thomas (480) says—"The Urbaniste is an excellent pear, but is too acid for many palates, and is a very moderate bearer." September to November.

Vicar of Winkfield—M. P. Wilder (278) considers this, taking all things into consideration, the best fall pear. "His high opinion of this variety was based on a thorough trial of its good qualities; which were these: regular and great productiveness, never blowing off the tree, large, fair, unblemished fruit, and its remaining a long time in use." "True," he added, "the fruit is only second rate; but while it is of fair quality for the table, it is excellent for a long time for cooking." Saml. Walker (278) coincided in this opinion, and says (458) that this pear requires careful ripening. November to January.

Winter Nelis—M. P. Wilder (19) remarks of this pear—"As a sweet, melting winter pear, it has no equal. Connoisseurs generally prefer the brisk, vinous juice of the d'Aremberg; but some of our good judges esteem the Nelis above all others of the season. The growth of the tree is not strong, but more so on the quince, to which it seems well adapted; it is hardy and thrifty in rich soils, otherwise the shoots are more stunted and feeble than is usual with most sorts. Keeps and ripens well, and bears good crops." It appears (279) to be the favorite winter pear of Robt. Manning, J. M. Ives, and John C. Lee. Downing in the same article (pomological gossip) remarks that the "Beurré d'Aremberg and Winter Nelis are about equally popular as winter fruits—the former being the best bearer, and the latter the most luscious flavor." J. J. Thomas (480) says that with him the Winter Nelis maintains its high reputation.

It may be noticed by some, that I have omitted, in the above abstract, three or four varieties of pears which were noticed in the first volume of the Horticulturist. These were either new native varieties, described for the first time, or foreign sorts not yet introduced. As this abstract is chiefly valuable to those who already have some acquaintance, by books, or otherwise, with the varieties named, I thought that nothing less than a complete description of new and unknown varieties would be satisfactory to them. This, the limits of an abstract would not allow.

Toledo, Feb. 9, 1848. F. J. Scott.

Transplanting Fruit Trees.

The experience of intelligent cultivators in different parts of the country, strongly sustains the opinion, that a great loss usually results from a neglect of pruning the tops of young trees, at the time of transplanting. Of the hundreds of thousands which are annually transferred from nurseries to private orchards and gardens, probably not one in twenty receives sufficient trimming or heading back.

Unskilful or improper trimming—applied to the side branches of the trunk, and leaving a heavy head at top, is very common. The head thus becomes too heavy for the slender stem to support, the latter forming, as a western cultivator remarks, "a graceful curve, in the shape of a French dancing master in the act of picking up a lady's fan." It must be distinctly borne in mind that it is not this kind of pruning, but thinning and shortening back the top, which it is intended here to recommend.

To remove a young fruit tree from the nursery, without a loss of a part of the roots, is totally impracticable. A network of fibres often extends on every side, to a distance quite equal to the heighth of the tree. Roots more than a foot in length, except for unusually large trees, are scarcely ever taken up by the most careful nurserymen. Hence a considerable excision becomes unavoidable. As the roots which remain to the tree, must supply moisture for all the leaves, it becomes evident that the number of leaves must be either lessened, or else each leaf will only receive a partial supply, in which latter case, its growth cannot be healthy and vigorous.* The top should therefore be trimmed by the knife, at least as much as the roots have been trimmed by the spade. Trees four or five feet high, usually lose at least half their roots by removal, and those nine or ten feet high, probably at least four-fifths.

The amount of thinning at the top, must, however, vary somewhat with the species of fruit tree. Some, as the peach, have a strong reproductive power. A young peach tree, may be cut off at the surface of the ground, in spring, and a new shoot will arise and attain a height in autumn nearly equal to that reached where there is no heading down. The practice is common among nurserymen, of removing peach trees while in

* That is, until by growth, a new set of roots is produced.

bud; these are headed down nearly to the surface, yet such buds often make a growth the same season nearly or quite equal to those buds not transplanted. Hence, a transplanted peach tree will bear a very heavy pruning at the top, with no ultimate loss, but an actual gain, in the growth and size of the tree. A cherry tree has less reproductive power—a young seedling cherry, headed down when transplanted, will not make near so fine a growth as if left uncut at top. Hence cherry trees should be more sparingly pruned when set out. The reproductive power of the apple lies between the two; and should consequently receive a considerable, but not excessive pruning.

The amount of thinning must also depend partly upon the climate. Where moisture is prevalent, less pruning is required than under the influence of dry, hot summers. Hence the climate of England admits a greater quantity of top and leaf, than that of the United States.

Many experiments might be adduced to show the advantages of freely pruning transplanted trees. As a sample of the whole, we need only to refer to two interesting experiments given in the Horticulturist. One hundred and eighty apple trees, in fair condition, were transplanted carefully in good ground. One half had their tops shortened back, so as to leave only one bud of the previous season's wood. The other ninety were set out without any shortening. Of the pruned trees, only *two* died—of those not pruned *eight* died. The pruned trees nearly all made vigorous shoots—some eighteen inches. The unpruned grew but little, none making shoots over six inches. The second year, the pruned trees outstripped the others in size and growth, and presented a much more luxuriant aspect. The second experiment was performed with 78 peach trees, three years from the bud, and consequently of large size. One half had their heads reduced one half; the other were planted entire. The season was dry. *One* only of the pruned trees died, the rest made fine bushy heads. *Twelve* of the unpruned trees died, and none made a fine growth, many of the branches dying—nature thus performing imperfectly what the knife should have done.

The annexed figures will exhibit more distinctly the proper mode of heading back apple and peach trees. Fig. 1 is a young apple tree with branches remaining, as commonly taken from the nursery; fig. 2, the same trimmed to a few branches, and those headed back within a few inches of the stem. It is better to leave for these side branches, vigorous shoots of the past year, and cut off closely all others. Should the top, as represented, be too high, the tree must be headed down lower, as to the dotted line *a* in fig. 1, leaving the tree in the form of the portion above *b* in fig. 2, the dotted line *b* representing in this case the surface of the ground. Peach trees may be treated in a nearly similar way.

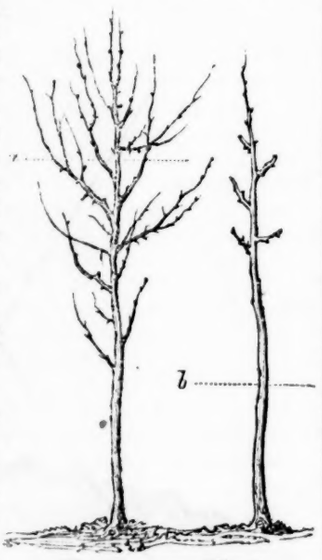


Fig. 1. Fig. 2.

Trees of moderate size, set out in spring, and thus freely pruned, scarcely ever need staking. If set out in autumn, the pruning should be deferred till spring, which is indispensable with half-tender trees, as the peach, and in which case they must be secured from the effects of the wind by a stake, or by a mound of earth. If a stake is used, care is needed to prevent chafing the tree, by the use of a large soft band. We have found a mound of earth one foot high, with a piece of turf at top encircling the tree, a sufficient stiffener against all winter winds. Such a mound also excludes the frost from the roots, and renders autumn transplanting of peach trees comparatively safe. It is levelled to the surface in the spring after the head is pruned.

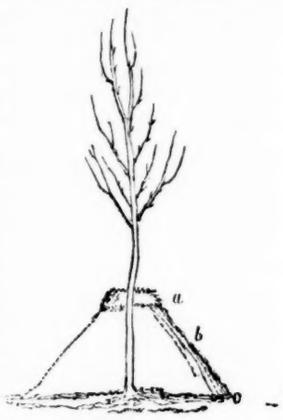


Fig. 3.

In the annexed figure (fig. 3,) *c* indicates the common surface of the ground, the dotted lines at *b* the mound of earth, and *a* the piece of turf at top for more effectually securing the tree to its place. One of these mounds is thrown up with a spade in thirty seconds.

There are some other important requisites in successful transplanting more or less known to cultivators; among the principal are,—pruning off all the bruised ends of roots, to prevent decay spreading; pouring in a few quarts of water to settle the fine earth among the roots, before the whole is quite filled; and setting the tree at the same depth as before removal, raising the mellow earth in a convex form two or three inches above the surface, to allow for settling.

Grafting and Pruning Old Orchards.

[The writer of the following has had much experience, and has shown unusual skill, in the successful management of Fruit Trees, and his remarks are commended to the attention of orchardists.—ED.]

There are thousands of large apple trees grafted every year, and much loss is often experienced from a lack of knowledge as regards their management. I have thought that the experience of one who has spent much time in grafting and pruning such trees, might be a benefit to those about having the work done. Trees are often mutilated and disfigured by ignorant persons. Some have thought that a few limbs grafted on the top of a large tree was sufficient—the other branches were cut off close to the trunk. Such persons do not consider that the larger the top, the more fruit the tree will produce. When there are but few limbs left, nature makes an effort to supply that which is lost; they make a vigorous growth of wood, and it is many years before much fruit is borne. The wounds that are made soon begin to decay, cavities are formed, and water accumulates in the trunk, which is taken up and carried into circulation by the sap, often causing death to the tree in a few years. A few such trees as I have described would spoil the beauty of any farm or rural scene, let all other improvements be what they may.

But I shall endeavor to show in as plain a manner as possible, (I do not pretend that it is perfect,) my way of management. In grafting large trees it is necessary to form a round well balanced top; and in order to effect this, the lower limbs should be grafted near their extremities. The next grafts above, nearer the centre of the tree; for young grafts make an upright growth, and if one set is placed directly above and near the lower, they soon grow together; but if placed gradually nearer the centre as you proceed in forming the top, the fruit will all be exposed to the sun and air alike, and all the grafts will have an equal chance to grow.

In trimming newly grafted trees, a fine saw should be used; and in order to create a free growth of wood the trees should be attended to early in the month of March or beginning of April. The limbs should not all be cut off the season after grafting; for if trimmed too much at first, too much sap is forced into the grafts, which are apt to be blown off by the high winds that occur during the summer. When this happens, the trees are nearly ruined, and no skill can restore them. The practice of pruning apple trees in the month of June, may be well enough where the present crop is an object; but it is proper for every one who undertakes such work, to understand the difference between pruning to create a growth of wood in newly set grafts, and pruning to benefit the fruit which is growing on the tree. I. HILDRETH. *Seneca, N. Y., Feb.*, 1848.

Apricots.

A correspondent in Virginia inquires how apricots succeed when budded on young peach trees; and which are the best varieties.

We have found the apricot to succeed well when budded on the peach at the surface of the ground. When the tree is transplanted, it should be set a little lower. to exclude the eggs of the peach worm. It is hardly necessary to say that the peach stocks should be healthy and entirely free constitutionally or otherwise, from the yellows. The plum is usually preferred as a stock for apricots, but we have not found that striking superiority which some authors have described.

The best standard varieties are, the *Breda*, remarkable for vigor and productiveness; the *Peach* and *Moorpark*, for large size and fine quality; the *Black*, for its extreme hardiness (equal to that of an apple-tree,) though second in quality; and the *Large Early*, rather new in this country, for its early maturity.

Pears for Vermont.

A "Vermont subscriber" wishes to inquire "what experience says of grafting the pear upon thorns close to the ground; its effect upon both tree and fruit. Also the best twelve varieties for enduring the hard winters and late frosts of Vermont, yielding the greatest quantity, largest size, and best quality."

The thorn does not appear to have been much used as a stock for the pear in this country; consequently it cannot be recommended with confidence. In England it has been employed to a considerable extent, and has succeeded well, especially on hard clayey soils where the pear does not otherwise thrive well. It should be grafted below the surface. It is believed to render the fruits harder and smaller than on pear stocks. The trees are rendered less vigorous, and come sooner into bearing. But after extensive trial, the quince is greatly preferred for dwarfs.

The propriety of planting trees with quince stocks for extensive marketing, in a country where land is cheap and trees dear, may be questioned except for a very few varieties. The only instance we know of extensive plantations of such trees, is the large orchards of T. Rivers of Sawbridgeworth, England, which consist chiefly of the Louise Bonne of Jersey, a large fine pear, which succeeds uncommonly well on the quince. Where trees can be procured cheaply by the quantity, and where it is desirable to obtain speedily a crop, there is no doubt it may succeed, provided the land is kept highly fertile and in good cultivation, and suitable varieties are selected.

It is very difficult to furnish select lists of fruits, adapted to particular regions of country, where *all* the best varieties have not been fully tried. The difficulty is much increased by the different degrees of excellence which different cultivators attach to various qualities. The following twelve varieties however, may be employed perhaps with a promise of good success, for the qualities indicated by our correspondent.

For *Pear Stocks*—Golden Bilboa, Bartlett, Louise Bonne of Jersey, Onondaga, Flemish Beauty, Dix, Beurré Bosc, White Doyenné, Stevens' Genesee, Vicar of Winkfield, Beurré d'Aremberg, Columbia. These are all fine table pears, mostly quite large;—if for cooking, the three following winter varieties may be chosen: Catillac, Pound or Winter Bell, Black Worcester.

A part of the preceding have been found to succeed well on the quince, and some others may, on more extensive trial. The following however are recommended from experience *for the quince*, among large pears: Louise Bonne de Jersey, Duchesse d'Angoulême, Long Green of Autumn, Beurrè d'Aumalis, Vicar of Winkfield, Golden Bilboa, Beurré Diel, Beurrè d'Aremberg, Glout Morceau.

Apples at the South.

"Will apples that ripen late, and keep during the winter in your latitude, answer as good winter apples in this State?" J. R. G. Halifax, N. C.

The winter apples of the Northern States, as they are removed South, mature earlier, and consequently are diminished in keeping qualities. As far south as Georgia, some ripen early in autumn. Those varieties which are little changed by climate, as for example the Rhode Island Greening, in other respects do well; but others, as the Baldwin, which are liable to variation, could not be depended on for quality. Indeed, it is exceedingly problematical whether the Baldwin would prove of much value as far south as Virginia. In the extreme southern states, new varieties originated there are found to succeed best. So far south as North Carolina, it is not probable that any of our sorts would prove winter apples except our longest keepers. The *Newtown Pippin*, *English Russet*, *Tewksbury Blush*, *Willow Twig*, of Ohio, *Rawle's Jannet*, and *Pryor's Red*, would probably succeed well. The latter, which proves a good winter apple in Western New-York, would probably become a late autumn variety in North Carolina.

Mulching Fruit Trees.

A correspondent of the Horticulturist planted 150 trees in an orchard in very good but rather dry soil. All were planted with equal care, but a third of them were *mulched*, or the surface of the ground when planted covered with 6 inches of litter. Those thus treated all lived; but 15 of those not mulched died in the hot dry weather of midsummer. It is not stated that the soil was kept clean and mellow around them; which will often save the life of trees, when they would die of neglect.

RAULES' JANNET APPLE, OR NEVERFAIL.—Eli Nichols, an intelligent cultivator of fruit in central Ohio, in speaking of this celebrated long-keeper, in connexion with the Summer Queen, says:—"I have eaten the Queen and the Neverfail each of perfect flavor, on the same day, the first from the tree, and the last from the cave of a neighboring tenant farmer, put up in the most careless manner; and I must testify that the Neverfail, in flavor, seemed more than a match for the Queen, although one year older."

CRANRERRIES ON UPLAND.—Mr. Gardner, of Massachusetts, according to a statement in the Farmers' Cabinet, raised a full crop of cranberries last year on upland, while those on their native swamps were killed by frost.

DOMESTIC PIGEONS.

THE family of birds called *Columbidæ*, or pigeons, as arranged by naturalists, comprehends five distinct groups, each containing several species. These birds are, from their characters and habits, objects of much interest. "In no tribe of the feathered race," says the author of the "Natural History of Pigeons," "do we meet with a plumage better adapted to gratify and delight the eye, than that of the pigeons." The variety and brilliancy of the tints, are hardly surpassed even by the humming-birds.

The domestic varieties of the pigeon, have, it is believed, derived their origin from one species—the wild Rock Pigeon, or as it is sometimes called, the Stock-Dove. They have become so numerous that it would be difficult to describe them all, though there are no less than twenty-eight varieties which have been held in more or less estimation by *fanciers*, or breeders. "But," says the author above referred to, "however diversified their forms, color, or peculiarity of habit may be, we consider them all as having originated from a few accidental varieties of the common pigeon, [or rock pigeon,] and not from any cross of that bird with other species, no sign or marks whatever of such being apparent in any of the numerous varieties known to us. In fact the greater part of them owe their existence to the interference and the art of man; for, by separating from the parent stock such accidental varieties as have occasionally occurred, by subjecting these to captivity and domestication, and by assorting and pairing them together, as fancy or caprice suggested, he has at intervals originated all the various and peculiar varieties which, it is well known when once produced, may be perpetuated for an indefinite period, by being kept separate and unmixed with others." Among other evidences of the correctness of this position, it is worthy of particular note, that all domestic varieties of the pigeon, breed readily with each other, and generate a fertile offspring; which it is not probable would be the case if they had originated from distinct species.

The parent species of the domestic pigeon is an inhabitant of the eastern continent, and is extensively distributed through the maritime districts of Europe, Asia, and Africa. It naturally inhabits the high clefts and caves of rocks near the sea. It is abundant along the rocky coasts of England and Scotland, and in the Hebridean and Orkney Islands. Man, it is said, "has only taken advantage of certain habits natural to the species, and by the substitution of an artificial for a real cavern, to which the pigeon-house may be compared, has without violating or at least greatly infringing upon its natural condition, brought it into a kind of voluntary subjection, and rendered it subservient to his benefit and use."

The pigeon has been kept in a state of partial domestication for a great length of time. They are mentioned by the earliest writers, and were held in great estimation by nations of antiquity; by some of which, especially the Assyrians, they were consecrated to sacrifice. In their wild as well as domestic state, they are remarkable for their rapid increase. An old writer calculates that from a single pair 14,760 may be produced in the space of four years. The female lays two eggs at a time, which, if they hatch, it is said invariably produce a male and female. The period of incubation is fifteen days; and in a domestic state, each pair hatches once in five or six weeks; in a wild state they rarely hatch more than twice in a season. The male and female relieve each other in sitting.

The most esteemed domestic varieties of pigeons, are known under the names of carriers, powters or croppers, tumblers, horsemen, jacobines, nuns, owls, runts, turbits, trumpeters and dragoons. There are particular individuals, called *fanciers*, who make the breeding of pigeons a *profession*, and those which they particularly cultivate and esteem, are called *fancy* varieties. Notwithstanding the striking peculiarities of these varieties, it is said that the fanciers can, by a skilful pairing of male and female, "breed them to a feather."

The *Carrier* (*c*) is remarkable for its powers of flight, and for an innate sagacity or instinct which prompts it to return to its home, when it has been car-

ried away and set at liberty. For this reason it has long been used as a medium of communication between distant places; and for speedily conveying intelligence of important events or transactions. Letters of light paper are attached to their wings; the bird is then let loose, when it takes a spiral flight till it reaches a great elevation, and then immediately darts off with great speed in a direct line to the spot from which it was taken. They are trained by taking them when young to a little distance from their cotes, or habitations, and letting them fly back; afterwards they are carried farther and farther at each trial, and so on until they will return home from a distance of many miles. The carrier is one of the largest and strongest of the pigeon family. Its shape is handsome and its attitude and motions graceful. Its color is various, but those of a dark bronze or brown are preferred. On its bill and head it has a fungus-like excrescence, of a dingy white color, which gives the bird a striking singularity of appearance.

The *Dragoon* is similar in habit to the carrier, and is said to be as swift on the wing. It is recorded that on a trial in England, one of this variety flew 76 miles in 2½ hours.

The *Powter or Cropper* (*a*) is principally esteemed on account of its habit of swelling out the crop. Most of the pigeons have this faculty to a limited extent. By a voluntary effort, the air is drawn into the œsophagus and crop, which, in the powter, become inflated to such a degree that the head is almost hid behind the enlargement, and the bird is obliged to walk in an upright position to sustain the centre of gravity.

The *Tumbler* (*d*) has an odd habit of throwing its body over in sudden evolutions, during its flight. This variety keeps much on the wing, and as they go in compact flocks and rise to a great height, almost beyond sight, constantly wheeling and tumbling as they ascend, they afford much amusement to persons who have the opportunity of noticing them. They have been known to remain on the wing from five to nine hours together, constantly busied in their "fantastic tricks."

The *Jacobine* (*b*) derives its name from a wreath of feathers which, rising round the neck, turn up over the head like the hood or cowl of a Jacobine priest. Of this variety, those are preferred which have the plumage of the body of a yellow color, a clear white head and white tail.

The *Ruff* (*h*) resembles the jacobine; but is not reckoned so valuable. Its chain or *cravat* is not so large and perfect as the former.

The *Capuchin* is a variety which, like the jacobine, receives its name from an order of monastics.

The *Nun* (*f*) is so called from its having feathers springing out from the head in such a manner as to almost *veil* the eyes.

The *Roman runt* is one of the largest of the tribe, and has been bred principally for the table.

Of *Fan-tails or Shakers* (*i*) there are two kinds—the broad-tailed and narrow-tailed. The former is most prized. In the best specimens the tail is set very broad, and so high that the head almost touches it, when the bird stands upright. The body is of small size, and the variety possesses no particular attraction except from the peculiarity of its tail, which, by contrast, gives variety and interest to a group. The color is white.

The figures in our cut were drawn from specimens bred at Mount Hope, the residence of E. P. Prentice, Esq.

THE FARMER'S NOTE BOOK.

Seeding Grass Lands.

Editors Cultivator—Having traveled over a considerable portion of the southern section of Michigan the past season, I was led to notice in particular, the general barren appearance of the land, excepting such as was covered with cultivated crops. In many places the field next adjoining a luxuriant crop of wheat, would be covered with thistles and briars. In fine, it seemed to me as if many of the farmers had determined to run a race, to see who should first succeed in running down their land.

Wheat each alternate year being taken from the soil without an ounce of grass seed ever being sown, or if sown, only in the most sparing manner, from 2 to 4 quarts being thought sufficient for an acre of ground. The consequence of this mode of management is such, that land which has not been more than twelve years cleared from its primitive forest, has, if not run out, become at least thoroughly run down.

Now I would say, that from observations made during a series of years, both in the New England States, and in other sections of our common country, in which it has been my fortune at different times to be placed, I have found that the most successful farmers were those who were the most bountiful of their seed, especially of their grass seed.

Many farmers even at the east, who have had the benefit of Agricultural Societies, and the practice of skilful and judicious neighbors near them, from whom they might improve, lose at least 25 per cent. from their pasture and meadow lands, by sowing their grass seed too sparingly.

An old proverb, from good authority, which will apply well to this subject, as well as many others, declares that "if ye sow sparingly, ye shall reap also sparingly;" in no case will this hold more true than with regard to the cereal grasses and grains. If every farmer who does not sow at least from 10 to 12 quarts of grass seed per acre, would this spring sow upon one acre double the amount he usually sows, and note the result in comparison with the rest, sown in his usual manner, I am satisfied that there is not one in ten of these farmers but would increase the amount of their seed for the future.

It is somewhat difficult to give the precise amount that should in all cases be sown; much depends upon the preparation of the land, quantity of barn-yard manure applied, if any, adaptedness of the soil to grass, &c. As a general rule for mixed grass, not less than one peck of timothy or herds-grass, and from 4 to 5 lbs. of clover, should be sown to the acre; in some cases more may be profitable, oftener more than less. In low moist lands one half bushel of Red-top, and 4 quarts of Timothy, will be found an excellent mixture. Enough in all cases should be sown to completely cover the surface of the ground the first fall, and thus in a great measure keep in check the noxious weeds, and supply in their place good wholesome food, which your stock will relish much better than the hard worthless stalks of the weeds and briars.

It is natural for land that is in a good condition, or even in a medium state of productiveness, to produce something; and if you do not cover the ground with seeds of your own choosing, nature will, and generally

with worthless plants. We should recollect that since the fall of man, the natural products of the mother earth are thorns and briars, while she is ever ready to repay with interest whatever we may bestow upon her bosom.

The deficiency of grass seed sown in this region (southern Michigan) is lamentable. One man, and he considered as good as the average of farmers here, lately told me he had never sown a pound of clover upon his farm since he first commenced to improve it, 14 years ago. The consequence of this management has been the loss of tons of valuable feed, the loss of the manure which that feed would have made, and the loss of the vegetable portion of the soil, which would in a measure have been kept up by the decomposition of the roots of the grass, when the land was prepared for wheat.

Lands that have been managed in this way for 12 or 14 years, will not now produce over one half of what they first did; and it would seem as if the most of the farmers in this section must soon see the bad effects of a too excessive cropping, without a rotation at least of grass well and thickly sown.

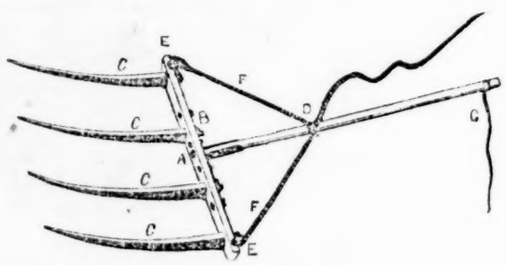
In conclusion, I will quote the old proverb—"As ye sow, so shall ye reap; if ye sow sparingly, ye shall reap also sparingly." Brother farmers, when you sow your grass seed this spring, do'nt forget the text, if it closes the essay instead of commencing it.

Hudson, Michigan. E. D. PIERSON.

Pitching Hay by Horse-Power.

Having been a reader of the Cultivator for some years past, and having never seen any account of pitching hay by horse-power, I thought the following description of a fork which I have used for the last five years, might be of interest to your readers. The tool is a great saving of manual labor, especially where the hay has to be put up in high mows. It is simple in its construction, not liable to get out of order when properly managed, and can be made by our common mechanics at so trifling a cost as to put it within the reach of every farmer.

The fork may be described as follows: (fig. 38,) A



Hay Fork—Fig. 38.

is the head, 28 inches long, and 2½ inches square, of white oak, or some other strong wood. B is the handle, 5½ feet long, morticed into the head, with an iron clasp of band or hoop iron to fit tight over the head, and to extend six inches up the handle, secured by two good rivets through the handle, to increase its strength. *c c c c*, the prongs of the fork, made of good steel, and of the right temper, ¼ an inch wide at the head, and drawn out tapering to the point. They are to be 20 inches long, 8 inches apart in the head, with a burr to screw them up tight, and a rivet on each side of the middle prongs, to keep the head from splitting. E E staples, riveted over the end prongs, to which the rope, F F is to be attached—the rope to be drawn together 3 feet from the head in the form of an A, and then the single rope to extend from that over a tackle-block, which is hung to a rafter at the peak of the roof of the barn, and 2 feet over the side of the mow, and thence to the bottom of the door-post, where another tackle-block is attached, under which the rope passes. G is a small rope, attached to the end of the handle, by which the fork is kept level as it ascends over the mow. As it approaches the place where the hay is to be left, the rope should be slackened in the hand, when the hay will tilt the fork so that it will discharge its load immediately. The fork, when loaded, is raised by a horse, which is attached to a swingle-tree to which the rope is fastened, near the lower pully or tackle-block above-mentioned. When the hay is discharged from the fork, back up the horse and be ready for another fork-full. The fork is drawn back by the small rope. In this way forks-full can be picked up nearly as quick as they can be by hand.

A farmer that has a large quantity of hay to pitch, will more than get pay for the trouble and expense of a fork of this kind in a single year. With the assistance of a boy to lead the horse to the fork, a man can with ease pitch off 6 tons of hay per hour, and pitch it from 15 to 20 feet high. On a trial of speed, I have pitched a ton 15 feet high in 4 minutes. The fork does not cost over $5 without the blocks and ropes, and I think they can be had altogether, ready for putting in operation, of Garret Brown, Newtown, Bucks County, Pa., for $7. A PRACTICAL FARMER. *Bucks County, Pa.*, 1848.

Culture of Potatoes and Indian Corn.

EDS. CULTIVATOR—In your last number, I notice an article on the prevention of the potato rot, and I think that by pursuing nearly the same course for the past four years, has been the means of saving my crop during that time. I generally plant good sized potatoes, cut in two or four pieces according to size, and plant two pieces in a hill, about six inches apart.

One of my neighbors, the past season, planted the same kind that I did, only they were small, about a fortnight before I did, and dug about three weeks after. More than half of his are unfit to eat, while in mine not one in a hundred is affected. It is my opinion that the potato has become degenerated by using small and unripe seed.

Also, an article entitled "fertility of the subsoil," where a person raised ears of corn 22 inches long, on soil that was raised from a well, reminds me of some timothy I saw growing on soil that was thrown out in digging a cellar, some of the heads of which were nearly 14 inches long.

Below I give you an account of my corn crop for the past season, grown on seven acres of land. It was a part of the field on which corn was raised in 1846, an account of which you published in the last volume—one acre of the field, the last year, being planted to potatoes:—

Plowing,	6¾	days,	$6 75	1st hoeing,	15	days,	$9.38
Harrow,	2	"	2.00	2d do	10½	"	6.50
Rolling,	½	"	50	Cutting up,	14½	"	9.00
Marking,	1	"	1.00	Husking,	54½	"	34.00
Planting,	9½	"	6 00	Drawing Stalks,	2	"	2.00
Cultivating,	4½	"	2.75				
							$80.88

At an expense of nearly $11½ per acre. We gathered from the field 20 loads of pumpkins, 1300 bushels of ears of corn, and 32 loads of corn fodder.

La Fayette, 20th Jan., 1848. E. V. W. Dox.

Stall-Feeding Cattle.

EDITORS CULTIVATOR—While reading your remarks to correspondents, in the December number of the Cultivator, it occurred to me that I might give you something in the line of *an experiment*, from which one *fact* at least might be drawn, viz:—That it will not answer for a farmer who wishes to make money, living where

hay and grain is as high as it is in most parts of Connecticut, to make beef entirely by stall-feeding, at ordinary prices. There is a profit in making beef, if it can be made mostly on grass, and many farmers think they can make it at a profit on grain; but there is not one to a dozen, after he has fatted a bullock, can tell how much he has given him. As he has got a heap of good manure, he guesses he has got his pay pretty well.

Experience, however, has taught me that it will not do to pay too much even for a good thing. In the experiment to which I allude, the prices of hay and grain are put low, or at what they would readily sell for at the barn; the beef at what it actually brought in market. I consider the manure an equivalent for the trouble. My aim in the experiment was accuracy, as near as possible. The hay was weighed three times per week to get an average; the grain and roots measured as given. I give the experiment as copied from my memorandum book.

Oct. 17, 1846.—Put up a pair of six year old oxen to fat—value as working oxen, $60—not saleable, being unruly; rather low in flesh, but perfectly strong and healthy. They were tied up in a warm but well ventilated stable; with light enough to see to eat well, and no more. Water was given them night and morning, as much as they would drink, varying from two to ten pails full per day. Most of the hay given them was cut in a machine, and wet up with their provender, to which a little salt was added daily. Their fattening qualities, judging from the handling, about a medium. They kept very quiet, lying down three-fourths of the time. Stables cleaned and well littered twice a day; oxen curried well once a day, and kept as clean as possible. Used about 3,000 lbs. of straw and stubble for litter.

The cattle consumed as follows:—

1st week—Hay 336 lbs—turneps 7 bushels.

2d week—The same.

3d week—308 lbs. of hay; 7 bu. turneps, and 1 bu. 24 quarts of provender—(corn ground with cob, worth 40 cents per bushel.)

4th week—Same as 3d.

5th week—280 lbs. of hay; 7 bu. turneps, and 1 bu. 24 quarts of provender.

6th week—280 lbs. hay; 10 bu. turneps, and 1 bu. 24 quarts of provender.

7th week—280 lbs. of hay; 10½ bu. turneps, and 2 bu. 20 quarts provender.

8th week—252 lbs of hay; 7 bu. turneps, and 7 bu. provender.

9th week—Same as 8th.

10th week—Same, except that the provender was half rye.

11th week—Hay and turneps same, and 7 bu. 28 quarts provender.

4 days of 12th week—144 lbs. hay; 4 bu. turneps, and 1½ bu. provender.

The oxen were slaughtered Jan. 7.

Cost of Oxen,	$60.00
3,280 lbs. hay, at $9 per ton,	14.76
88 bushels turneps, at 16 cents,	14.08
Provender,	20.40
Total expense,	$109.24
Beef, 1,592 lbs., at $5.87½ per 100,	$93.53
Hides, 195 lbs. at 3 cents,	5.85
Heads and plucks, less butchering,	62
Total receipts,	$100.00
Loss,	$9.24

I would state farther, that through the whole time the oxen had as much hay as they could eat, and the last half of it as much provender; mixing it with hay prevented their sickening or cloying. LOZELLE J. PLATT. *Winthrop, Conn., Dec. 31st*, 1847.

Bread Making Machine.

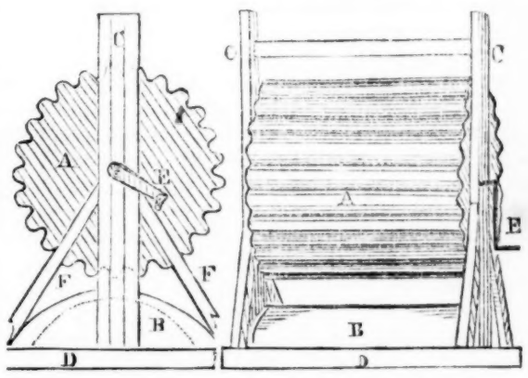


Fig 1—*End View.* Fig. 2—*Side View.*

A, fluted roller; B, section of a larger roller; C, framework to support the roller; D, thick plank into which the frame is morticed;* E, crank of roller; F F, braces to frame.

EDS. CULTIVATOR—Seeing in your last number of the Cultivator, a notice of a premium being offered for a bread making machine which should not exceed $5 in cost of construction, accompanied with a sketch of one by J. A. C., (which seems to me to be merely a common biscuit brake, such as is used by bakers,) I have been induced to send you the above drawings of a machine which I have used in my family with the very best results, the bread being as effectually kneaded as it could be done by hand, and with this decided advantage—that you know that it is clean, there being no occasion to make use of the hands, even in the mixing of the dough; consequently you may make any of your servants do the work. The first thing to do is to provide yourself with a tolerable wide plank, into which have two upright posts or pieces of scantling, C, C, of suitable size, say 3 × 3, morticed, and which are supported by the braces F F. Into these have a fluted roller, A, fixed—the flutes should be deep, and not coming to a sharp edge, but rounded, as shown in the sketch. Below this roller, and fastened to a plank, should be the segment of a much larger roller, on which the dough is laid when passing under the fluted roller. In those I have used this has been fixed; but some may suppose a moveable roller below would answer best, in which case they can have one fixed, as shown by the dotted lines—a piece of ¾ inch iron passes through the fluted roller, forming the axle and crank, as shown at E. The whole is exceedingly simple, and can be made by any jobbing carpenter. The iron crank can be dispensed with, and the axle formed from a part of the roller, to which a handle can be affixed, as is done to grindstones. Such was the one I made use of at first.

And now for the operation:—Take a wooden bowl or tray into which mix as much flower and water, with the necessary quantity of yeast and salt. Stir this well together with a wooden spoon, adding more flour as required until it has become stiff and of the right consistency. Form it into a roll or loaf, and place it on the large roller, and commence turning the crank. This will of course carry all the dough through, kneaded by the flutes of the roller. It will also of course be elongated and flattened. Now double it over, and reverse the motion of the crank, and you will pass the dough back to the side from whence it first came. Continue this operation as long as you may deem it necessary. Then take it and form into one or as many loaves as the quantity may allow. Place it in pans to rise, and when risen bake as usual.

* By being attached to a moveable piece of plank, it can be more easily put away; and when to be used, it can be fastened on to a table or dresser.

I have thus sketched what I believe to be the most simple bread making machine (considering its efficiency) that can well be made. I have had one in use for many years, and speak from a knowledge of its perfect efficiency and adaptedness to the work. The bread made by it cannot be distinguished from that kneaded by a regularly instructed baker; and one of its great merits is, that by varying the size you may adapt it to a small family or a large hotel: for I have tested it for this latter purpose, having been the proprietor of a fashionable summer retreat far in the interior, where I could not always procure experienced bakers, I had to contrive something to aid me, and after I had had one of them made I found no difficulty, for then the pastry cook also made all the bread, and the bread was always light, and there were fewer failures in making it good after I commenced using this machine, than when the hands were used in kneading it. The size best adapted to a small family would be a roller about 9 inches long, and from 10 to 12 inches in diameter; the space between the rollers may vary from 1 to 2 inches. By bringing them so close, and continuing the revolutions a length of time, you have all the effect of a baker's brake for biscuits, produced, and of course you may make most excellent biscuits.

This machine possesses, I believe, all the requisites required by R. W. Jr., for claiming the premium offered by him, being "an effective machine for kneading and mixing dough, that shall be simple in its construction, easily cleaned, to occupy a small space, durable, and not to exceed $5 in cost, for one to work 5 lbs. of flour at a time;" and I enter it, therefore, in competition with that described in the December number of the Cultivator. In fact, knowing its efficiency by actual trial for several years, I hesitate not to show it against even the very expensive one described by Loudon in his Encyclopædia of Architecture, &c. L. *South Carolina, Dec.* 20, 1847.

Rearing Lambs for Market.

At our request, Mr. GEORGE EDWARDS, of Mechaniesville, Saratoga county, has furnished us the following account of his mode of managing sheep and rearing lambs for market:

"As my farm is near our large markets, and well adapted to what I call *mixed husbandry*—that is sheep, grain, and grass—the soil a loam, high and dry—I find the rearing of fat lambs the most profitable branch of farming. The ewes have generally been bought in September—always selecting those of rather coarse wool, they being larger, and generally the best nurses. The rams (pure South Downs) are put to them early in November, and the lambs are dropped about the first of April. The ewes are fed during the winter with corn-stalks and straw, and about one month before lambing and from thence till they go to pasture, they are each fed with three quarts of brewer's grains per day.

"Last year, 100 ewes raised 100 lambs. The wool, which was sold at Troy at 32 cents per lb., brought $104.75. Twenty-five lambs sold at $2 each, one ram lamb $5, one do. $3, and the remaining seventy-three at $1.75 each. They were all taken away by the last of July. The ewes were sold to the butcher at $2 each in October—so that the hundred ewes realized $490.50.

"It is desirable to get rid of the lambs early, that the ewes may have time to fatten, so that they may be sold to the butcher in the fall—giving room for a new flock which should be bought in for the next season.

"It is a good mode, and one which we have frequently adopted, if we have a piece of rye which had been sown on a clover sod, (or where the land was otherwise in good order) to plow the stubble the very moment the rye is off the field, and sow turneps. The furrows are first harrowed with a light harrow, lengthwise, and then crosswise—the seed sown broadcast, 2 lbs. per acre—ending with rolling the ground with a very light roller. The turnep called the stubble turnep, is preferred. A larger quantity of seed is sown than some use, in order to get a good stand in spite of the ravages of the fly. I have now procured one of Emery's seed-planters, and shall probably sow the turneps in drills henceforth—the rows two feet apart, to give space to work between them with a horse and small plow, or cultivator. As soon as the turneps are up about two inches, we put on the light harrows, passing both ways, keeping a straight course. If the turneps are in drills, the drags are only run across the rows. About two days after the harrows are run over the turneps, they are gone over with hoes, and thinned where they are in bunches.

"Ten acres of turneps, with a tolerable even plant, will supply and fatten 150 sheep, and will afford fine keep for them from the first of October to the end of November, (if there is not much snow) at a time when pasture is generally short. About one acre should be fenced off to commence with, and after four or five days, add about one-fourth of an acre every other day. At first the sheep will appear not to like the turneps, but after three or four days they will eat them rapidly. A boy should be placed with the sheep for two or three hours each day, to chop up the shells—the sheep will fall back and eat them up clean.

"While the sheep are on the turneps, it is an advantage to give them a little cut hay in troughs—say about three bushels per day for 150 sheep.

"Let any man try this plan, and if his land is in good heart, he will not only find his sheep get *really fat*, but they will leave the land in fine condition for a spring crop. It must be observed, the more attention that is paid to keeping down the weeds, the better will the crop pay cost."

Red Root—*(Lithospermum arvense.)*

C. M. Stark, of Yates county, N. Y., says in the Transactions of the N. Y. Ag. Society, that 30 years ago the red-root was unknown in Yates county—now, it is so abundant, by neglect and increase, that hundreds of bushels are purchased at the oil mills at 19 cents per bushel; and if one dollar per bushel were given, the hundreds would be thousands. The ripening of this seed makes a tremendous draught upon the soil.

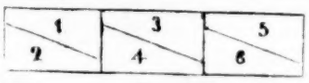
When first introduced, it may be cleaned out by careful, close, and constant weeding. This we know. But farmers generally will not do this till they have learned all the evils, and then it is too late. In such cases, it is proposed to eradicate it by a proper rotation. Plow once for wheat, 8 inches deep, to throw the seed too deep for germination, doing the rest of the work by the cultivator. Then, next autumn, plow the stubble the same depth, to bring up the seed, and harrow it; it will grow. The next spring, plow very shallow, or cultivate, and sow a spring crop. Again plow and harrow in the fall, cultivate in the spring, and plant corn as early as possible. This, if well tilled, will clear all growing weeds. Plow again early in autumn, the same way, and next spring sow some *other* spring crop. Then, seed with grass. The red-root, being a biennial, can hardly stand such a course.

To prevent carting seeds out with manure, it is recommended to thrash, and burn the wheat straw in a heap, on the field where it grew, looking to the straw of the spring crops to furnish manure. Then, keep a look out, especially near trees, for plants from seed dropped by the birds, which are to be carefully weeded out.

Economical Fences.

The following is a description of a kind of fences which I have tried considerably:—For posts I use 1¼ inch oak or hemlock plank, 2 inches wide at top, and 18 inches wide at bottom; 4 feet long, and set on 2 stones on top of the ground. It is 5 boards high, 3 of the boards being 6 inches, and 2 of them 5 inches wide, with a 5-inch board for a cap. The fence is straight, with half the posts on each side, thus breaking joints on each post. The boards may be 12 or 14 feet long.

The fence has thus a base of 3 feet and an inch—the posts slanting and bracing in towards the top, which allows the plow to run close to them, and not interfere with the whiffle-trees. The fence will last as long as the boards, as every part is above ground. For fear of heavy pressure by unruly cattle, or the danger of being moved by high winds, I drive down, close to the slanting side of each post, a thin stake of oak, about one foot into the ground, and put a nail through it into the edge of the post, which makes it firm and secure. I put a two inch bat in front of each post, of inch board, which holds the boards from warping better than the nails alone. I make this kind of fence portable by using one post at one end, and one in the middle on the opposite side of a length, and on the other end a three inch strip of board, instead of a post, with two holes corresponding with two holes in the wide post on the first end of the next length, in which I put two pins connecting the lengths, and thus proceed. With this portable fence I enclose my stacks, confine my pigs on a small portion of my pea-ground, fallow, &c. I consider the economy of this fence such that I would not receive posts as a gift, and be under obligations to set them in the ground the usual way. I buy 1¼ inch plank, 20 inches wide, 12 feet long. Each plank is made into six posts by my wood saw running by horse-power. My bats are sawed by the same. I cut the plank for posts thus:—



Clyde, Wayne Co., N. Y. JOS. WATSON.

Milking.

A writer in ~~the Maine Farmer~~ gives, from long experience, a number of rules for milking, most of which are very good, as—pare your nails short—sit on a stool—milk fast—never scold a cow—never get out of patience—tie her tail to her leg in fly-time, &c. But the following are objectionable: "wet the teats with the first stream of milk"—and "never strike a cow for running or kicking." Milk, applied to the teats to soften them, dries and forms a glossy varnish, which tends to cause cracking or chapping of these parts. Cold water is much better, becoming quite dry by the time the milking is finished, and leaving the teats clean and soft. Touching the striking of a cow—the rule applies well to ninety-nine cases in a hundred as now practiced—but judicious punishment will cure a cow amazingly quick. I speak from ~~long~~ experience. If a cow kicks much, place a switch under the left arm, the pail in the left hand, and if, while milking, she kicks, let it be followed invariably by a *single* blow. Never strike but once at a time, even if she kicks so hard as to break your leg—and never omit it, if she hits nothing. Soothe her at all other times. In this way she soon finds what the whip means, and shapes her conduct accordingly. A small mess of pleasant food at the time, will serve to do away any disagreeable impression in connexion with milking. By never striking but once, she has not time to "get mad," and it is all the more terrific, for who cares for a blow while stimulated by fury?

I have found some "hard cases" to deal with, but completely cured them all with a single exception. There was one old cow, so terrific in the blows she dealt out, that none dare attempt her with a pail, till her legs had been strongly secured, which was done with great difficulty. She never kicked, after I had given her the second milking, in the way I have just stated, but became perfectly mild, quiet, and gentle, having doubtless been made vicious by bad management. The case which I could not cure was a large, uncommonly knowing cow, who was wise enough never to kick when *I* milked her, consequently I could not apply the remedy, but was savage enough to other milkers. With regard to cows running about,—I once knew a cow quite troublesome in this particular, usually upsetting the pail of milk, before commencing a race. The boys chased her round the pasture till they cornered her, and then lashed her vigorously. As a consequence, she took care not to be cornered next time, and hence became intractable in the extreme. To cure her, she was placed in a moderate-sized yard, and driven gently into a corner. When she ran, the whip was applied, but with only one blow at a time, till she regained the old corner, where every means was used to quiet her. In this way she soon found an intimate connexion between whipping and running, and that comfort consisted in sticking to her post. On the third day she was handed over to the care of the hired man, and ever after was a quiet cow.

It is almost needless to add that this mode of treatment requires perfect calmness, patience, and self-possession. When you feel passion or fear, the animal soon discovers it, and she feels no longer the influence of a superior being. Therefore those who cannot carry out the system properly, had better not try it.

AN OLD MILKER.

Shallow Plowing and Surface Manuring.

We make the following extract from a letter from a Maryland subscriber:—If you looked at the Farmer, you saw I got the first premium for wheat and corn—Wheat 41 bushels per acre—Corn 63 bush. per acre—and for plowing, at our cattle show in 1847. I had taken some pains to prepare the lot for the wheat, and as I stand nearly alone on shoal plowing, I was the more particular. I prepared a part of the lot with *Sinclair's* 3-mould plows, and the common drag harrow, and have never seen as good White wheat in the winter, during my farming; and nearly every one that has seen the wheat, which I have growing from 22 bush. seed, has pronounced that they hardly ever saw as good in the winter; few crops look well in our part of the country; I have seen but 2 or 3 in my travels. I am well satisfied, if surface manuring is true, which I think will not be denied, that to keep the richest portions of your earth nearest the surface, must be the true interest of every farmer. I find that all men who give their manure to the top of the land, when in grass, will not hesitate a moment to say that they prefer the plan of putting their manure on top; that is to say on grass the year before they cultivate, or on the land after they have broken it up in the spring for corn, or as a top-dressing on wheat, after seeding; all of which must be rotted manure, except for corn, or there will not be the same benefit.

In the year 1834 or 1835, I ordered my driver to take to my corn lands, manure ten with rotted manure before plowing, and ten after planting; also ten with unrotted before plowing, and ten after, and alternate them, to see which would produce most corn—land equally good. After the corn got three feet high, I

told him to have it suckered. I inquired if he found any difference; he informed me the rows manured on top had four or five times as many suckers, which was the first thing that gave me the idea of top-dressing land. I regret I did not gather and measure; but I forgot to give the order.

I shall continue to plow from two to four inches, and I think if I have as good luck as I have had, that I shall not change, though I shall give some efforts in good land a little deeper. One thing I will mention: if you will take a deep, rich black mold, and take off one or two inches from a few lands, and put it in another place, you may put what you please in land, and nothing will grow equally good as in the rows which are in their natural state; but do you continue the manure, and after some years exposure they will come to produce well. So in this case, I draw the inference that sun and light are *first* all important. I like to go down with such implements as will not take down the top or bring up the bottom, and for this reason, in excessive hot weather the roots of plants desire to protect themselves from the heat, and in very wet weather I like the water to have a chance to settle quick.

Interesting Experiments.

Adam Clark, of Milo, Yates county, N. Y., in a communication to the Gen. Farmer, gives the result of an experiment, which is worthy the attention of all wheat raisers. Four pieces of ground, each 2 feet square, of finely prepared ground, were planted with wheat, a grain each at the intersection of straight lines drawn across each plat. The experiment and results we have condensed in the following table:

	No. 1.	No. 2	No. 3.	No. 4.
Distances of seed asunder,.....	1½ in.	3 in.	4 in.	4 4-5in
Number of grains planted,.....	289	81	49	36
Number of grains that grew,.....	203	60	40	30
Number of heads, ...	286	136	112	104
Average number of grains per head,..	26	35	39	42
Whole number of grains,.....	7458	4765	4452	4399
Yield per acre in bushels,.....	108	69	64	63
Seed per acre, in bushels and pounds,	4 bu. 12 lbs.	1 bu. 10 lbs	42¾ lbs	31½ lbs

Fat Animals.

The Centre market at Albany presented a display of very fine beef, mutton and pork, on the 22d of February.

At the stall of Mr. KIRKPATRICK was the beef of a heifer, in relation to which, as she was considered a very superior animal, we have thought proper to collect some particulars. Mr. WM. J. MCKOWN, of Waterville, Oneida county, who fattened her, states that she was raised by Mr. WM. HAYS, of Sangerfield, in the county before mentioned, and was calved the 27th of March, 1844. That she was got by a full blood Durham bull from Mr. WEDDLE'S stock which was sent by BARNABAS ALLEN of Wayne county, to STEPHEN LEONARD of Sangerfield. That her dam was got by a three-fourths bred Durham bull, from Mr. WEDDLE'S stock, bred by Mr. SPEAR of Palmyra; her grand-dam a "native mouse-colored" cow, said to be of an excellent *family*. The heifer never bred. Her dam has produced several other calves, all of which have been killed for veal, and were remarkable for their fatness and symmetry. The sire of the heifer was chiefly noted for the value of his progeny for dairy purposes—his owner, Mr. LEONARD, having raised several cows by him, that were superior milkers.

The heifer was raised in the ordinary way, (not allowed to suck,) and had milk but for a few weeks. She attracted no particular attention till the fall after she was two years old, when she had become so fat on grass, that it was determined to sell her for beef. Mr. MCKOWN bought her the last of September, 1846, intending to slaughter her in a few weeks; but on feeding her for a short time with pumpkins, she gained so rapidly and showed such a strong propensity to fatten, that it was resolved to keep her a longer time. From the first of January, 1847, she had two quarts of meal per day, till the first of October; being fed in other respects like the dairy cows. with which she ran. From October till she was slaughtered, she was full fed with pumpkins, carrots, and corn and cob meal. She was killed on the 19th of February, 1848, at which time her weight was as follows: Live weight—1492 lbs. Dressed weight—quarters, 984, tallow 157, hide 67= 1208 lbs.*

At the stall of Mr. JAMES MCQUADE, was the beef of a fine pair of twin cattle, fattened by Mr. SHERMAN BASSETT, of North-East, Dutchess county. They were four years old, (coming five this spring,) were said to have been raised in Connecticut. They were called of "native" breed. Their color was a handsome brindle; but their shape and general character, strongly denoted a strain of Devon blood. They had been fed about a year, but the particulars of feeding we did not learn. Their dressed weights were as follows: *Near* ox, quarters, 1062, tallow 188, hide 80=1330 lbs. *Off* ox, quarters 1072, tallow 180, hide 84=1336 lbs.

Mr. D. MAHONEY had the beef of four very good oxen, fattened by Mr. C. LEACH, of Madison county. We only obtained the weights of the quarters of these cattle, those of one pair of which weighed 2746 lbs., and of the other 2304 lbs.

Mr. J. FEATHERLY had the carcass of an extraordinary calf, fattened by Mr. WOOLFORD, of Albany. It was a few days less than three months old, and its dressed weight was 302 lbs. It was a mixture of Durham and Devon blood.

A very large and well shaped hog was shown at the stall of Mr. GEO. SCHWARTZ; it was said to be but eighteen months old, but it weighed, dressed, 728 lbs.

Mr. KIRKPATRICK had the carcasses of seven Leicester sheep, fattened by HARRY FELT, of Madison county, the dressed weights of which were from 88 to 115 lbs. The saddles of most of these were sold to go to Virginia, and brought about twelve cents per pound. Mr. MCQUADE had also some very fine mutton, but we did not learn the weight.

Agricultural Discussions.

In our last, we gave a brief sketch of the discussions which have taken place at the weekly meetings held at the Capitol in this city. The subject of the culture of fruits was taken up at the fifth meeting, and occupied two evenings. The meetings were fully attended, and the discussion elicited remarks from many cultivators and amateurs. We shall endeavor to find room for a more extended notice of this discussion in a future number. The following resolution was unanimously adopted:

Resolved, That we deem it most for the interests of farmers, mainly to cultivate approved varieties of fruit of our own country; and that we approve of the varieties re-

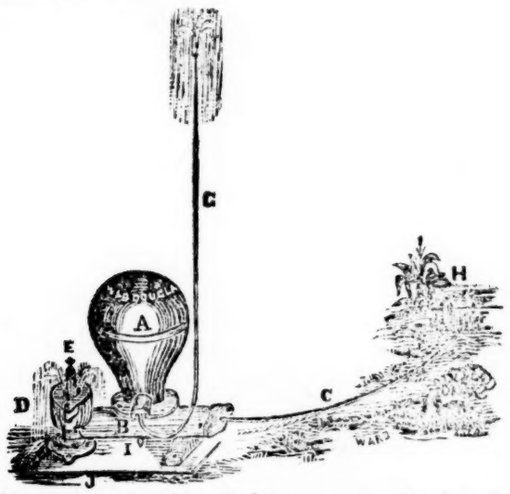
* There is a table which was published several years since in England, for ascertaining the dressed weight of cattle by external measurement: The girth of the beast is taken at the smallest part, immediately behind the fore legs, and the length from the point of the shoulder to the end of the rump. From these measurements, the table purports to show the weight of the beef, or four quarters. We are not aware that the table is much used in this country. Its correctness appears to be doubted. Some contend that, it gives too much, and others that it gives too little dressed weight in proportion to the dimensions. The heifer was tried by this rule. Her length from shoulder to end of rump was 5 ft. 2 in. and her girth 7 ft. 4 in. According to the table, her quarters would have weighed 946 lbs. Their actual weight was 984 lbs. But as this animal was of uncommon fatness, and her flesh of unusual thickness, she can hardly be deemed to form a fair test of the correctness of the table, which for cattle in general, it is by no means improbable, is sufficiently accurate.

commended by the State Agricultural Society, at the annual meetings of 1847 and 1848, and commend them to the notice of cultivators.

The next discussion related to the manufacture of Butter, &c. Mr. JOHNSON, the secretary of the Society, gave some very valuable and important information in regard to the quantity of butter manufactured in the different counties of this State—the qualities of the different kinds of salt used—and the course pursued by our government in making contracts for the supply of butter for the army and navy. Mr. J.'s remarks will appear in the *Transactions*, and we shall take the earliest opportunity to put our readers in possession of some of the important facts which he has collected.

Improved Hydraulic Ram.

The annexed cut represents W. & B. DOUGLASS' Improved Hydraulic Ram, manufactured at Middletown, Conn., for which a silver medal was awarded by the American Institute, October, 1847, and also a premium by the Middlesex County (Ct.,) Ag. Society, October, 1847.



H spring or brook. C drive or supply pipe, from spring to ram. G pipe conveying water to house or other point required for use. B, D, A, E, I, the ram. J the plank or other foundation to which the machine is secured.

Water-rams, variously constructed, are fast coming into use, and with great advantage. We copy the following description of them from the Middletown, Ct., Constitution:—"Its object is to raise water above its natural level, which is done by a simple hydrostatic principle. If a bar of iron be made to stand upright, it will press with its whole weight on the point on which it rests; but if a column of water be poured down a perpendicular tube, it exerts a force not only downward but laterally, so that it would have a tendency, if the tube was closed at the bottom, to expand at the bottom of the tube into a globular form, by pressing on each side equally. If the tube be very long it must be capable of resisting a great pressure at the lower end or it will burst. If now a smaller pipe be made to connect with this tube at the bottom, and a stop cock be placed at or near the point of junction, the pressure of the water will be very great at the place where the stopcock is. If the cock be suddenly opened, so great is the pressure that a jet of water will rise in this pipe to a considerable distance above the top of the other pipe. If the cock be opened and shut successively, a continuous stream is obtained from the smaller pipe. This is the simple principle of the Water-Ram. Messrs. W. & B. DOUGLASS in this city, are manufacturing a very perfect article, which takes but little room, acts with great force, and seldom gets out of repair. It has obtained quite extensive use among the farming community. Springs of excellent water, before of no utility because at a distance from where they might be used, and at too low a level for ordinary conveyance through pipes, are now brought into requisition for household purposes, for watering cattle, and also for irrigating lands." [See advertisement.]

Lawrence Scientific School.

This Institution forms a department of Harvard University, Cambridge, Mass.—a department endowed by the munificence of the Hon. ABBOT LAWRENCE. The second term commenced on the 25th of February last. From a circular forwarded us by Prof. HORSFORD, we learn that instruction will be given under the following heads:—1. *Chemistry*, under the direction of Prof. HORSFORD, who will receive special students in chemistry, they giving their attendance in the laboratory for such time as shall appear to be necessary. In the course of the term Prof. H. will deliver a full course of lectures on theoretical and practical chemistry. 2. *Zoology and Geology*. Prof. AGASSIZ will deliver a course of lectures "on the History of the earliest Geological Ages," followed with an account of the earliest known condition of our globe, and the changes it has undergone up to the present period. The regular lectures in future will consist alternately of zoology and geology. Prof. AGASSIZ will afford students access to his laboratory, in order that they may learn how to observe isolated facts, and how to conduct investigations in a proper manner. He will also make excursions in the country with the students during term-time. 3. *Engineering*. This department will be brought into operation as soon as practicable.

The following courses of lectures delivered to undergraduates will be open to members of the Scientific School, viz:—A compendious course on *Minerology* and *Geology*, by Prof. WEBSTER. A course on *Systematic Botany according to the Natural System*, by Prof. GRAY. A course on *Natural Philosophy*, by Prof. LOVERING. A course on the *General Outlines of the Classification of the Animal Kingdom, and on comparative Anatomy and Physiology*, by Prof. JEFFRIES WYMAN.

We learn that the new Chemical Laboratory and the building for the department of Engineering are in progress of erection. It is expected that the former will be ready for occupation by September next. The formation of a Museum of Natural History, on an extensive scale, will be immediately commenced under the superintendence of the professors in the several departments. The Mineralogical Cabinet of the University, the Rumford and Philosophical Apparatus, the Anatomical Museum, the Botanic Garden, the Observatory, and the Public Library, will be accessible to the students of the Scientific School.

Further information on all subjects connected with the school, may be obtained on application to Prof. E. N. HORSFORD, Dean of the Faculty.

CUBIC FEET AND BUSHELS.—Divide the number of cubic feet by 1-6, and the result will be heaped bushels—applicable to apples, potatoes, &c. Multiply the cubic feet by the fraction 4-5, and the product will be stricken bushels.

LAWSUITS.—The Chinese call going to law, "losing a cow to win a cat." With us it is often losing the cow without winning the cat.

AN OLD AND GOOD MAXIM FOR DRIVERS:

Up hill urge me not,
Down hill press me not,
On the plain spare me not,
In the stable forget me not.

Answers to Inquiries.

BACK VOLUMES OF THE CULTIVATOR.—In answer to several inquiries, we state that we can supply orders for any or all of the back volumes of "The Cultivator." The first series, consists of ten vols. quarto, price, stitched, $1 per vol. New series, four vols. now complete, stitched, $1 per vol. The usual discount to agents. These vols. can any of them, be always obtained, bound or unbound, of our agents in New-York, Messrs. M. H. NEWMAN & Co., booksellers, 199 Broadway.

MANNER OF SPREADING LIME.—E. H. O., Petersburgh, Va. Lime is sometimes taken from the kiln in carts, laid on the field in small heaps, and covered slightly with earth; in which situation it remains till it has slaked and become thoroughly fine, when it is spread with a shovel. In other cases, it is allowed to become considerably slaked before it is carted, and is spread over the field immediately from the cart.

COMPOSITION FOR GRAFTING.—S. F. C., Philadelphia. See an article under the horticultural head in our last number.

WHITE OR OX-EYE DAISY.—(*Chrysanthemum leucanthemum.*) L. S., Fredonia, N. Y. The seeds of this plant will vegetate after having passed through the bodies of horses or cattle, and it would not, therefore, be advisable to use manure made from hay which contained the seeds, unless great care was taken to destroy the plants as soon as they could be readily found.

QUANTITY OF CARROT SEED FOR AN ACRE.—A. F., Hudson, N. Y. The quantity of seed required for an acre, depends on the width between the rows; the usual width is about sixteen inches; and when sown with a good machine, about one pound is sufficient for an acre. It may be had at the Albany Agricultural Warehouse, at a dollar and twenty-five cents per pound.

"DO OYSTER-SHELLS CONTAIN POSPHATE OF LIME?" D. G. Washington, D. C. The quantity of posphate of lime is very small, not exceeding one per cent. They, however, form an excellent application for fruit trees, on many soils; but if the posphate of lime is especially required, it would be better obtained by the use of bones. The bones or shells would be more immediately useful if they were reduced to small pieces.

WORK ON GOATS.—J. W. O. We do not know of any separate work on goats. They are spoken of in several works on agriculture; and Loudon describes the various domesticated species, and their uses.

LEAD PIPES FOR WATER.—The inquiry is often made whether lead pipes or tubes used for the conveyance of water, impart to the water any injurious quality. The conclusion generally prevails, among those who have investigated the matter, that lead is not entirely safe, so far as regards the purity of the water. Dr. HOLMES, in a late number of the *Maine Farmer*, has given an article on this subject, from which we gather the following: that perfectly pure water in lead, causes the formation of an oxide of lead, which dissolves and the water becomes poisonous: that all the salts of lead are poisonous when taken into the stomach: that the oxides readily form combinations with acids and alkalies, which are deleterious to those who may swallow them, whether in solution or otherwise.

Sometime since we received an inquiry in relation to the cause of the decay of lead pipe, when placed in the ground and used for conveying water. It was said the pipes soon became thin, that holes were formed in them which rendered them worthless. By the above reasoning, it may be seen that the decomposition of the pipe may be owing to its oxidation from the action of the water, its particles becoming dissolved and carried away by the current.

CLAY PIPES FOR DRAINING.—C. A. K. Parma Centre, N. Y. We are not apprised of clay pipes of the kind described by Prof. NORTON, being made in this country; but we are informed that measures have been taken to introduce a machine by which they are made, and commence the manufacture of them.

SOWING BUCKWHEAT WITH WHEAT.—T. H., Colchester, Canada West. We cannot see how the ravages of the Hessian fly can be prevented by buckwheat being sown with wheat. We can imagine no quality in the buckwheat that would repel the fly and certainly the fly could not live in the buckwheat. We should therefore, attribute the exemption of the crop to which you refer, to accident, and not any influence of the buckwheat.

DOWNING'S "FRUIT AND FRUIT TREES."—J. H., Ottawa, Ill. The price of this work, with colored plates, is $15; that of the common edition, $1.50. The latter contains the outline figures of fruits, but no plates.

OSAGE ORANGE.—M. D. Jr., Lynchburgh, Va. The seeds of this plant are advertised by M. B. BATEHAM, Columbus, Ohio, at $2 per quart. We do not know of any *new* seed for sale here. Abundance of young plants may be had in this vicinity at $12 per thousand.

COTSWOLD AND LEICESTER SHEEP.—L. F., Waynesboro, Va. We cannot say who has sheep of these breeds for sale in this neighborhood. Persons who have them would do well to inform us.

J. F., Urbana, O. We can send any of the back vols. of the *Cultivator* in sheets, without stitching.

CHEESE.—In answer to various inquiries, we will give an article on this subject next month.

IDE'S CULTIVATOR.—In answer to an inquiry made sometime since in regard to this implement, Mr. NATHAN IDE writes us that it will effectually destroy "wire grass," Canada thistles, and other noxious plants, if it is properly used. He states that he has now a good wheat field, where the wire grass had entire possession a few years ago—it is now perfectly clean.

"WHITE BLACK-BERRIES."—Mr. GEO. A. MASON, of Jordan, N. Y., informs us that this kind of fruit is quite common in his neighborhood.

SUPPOSED INJURY TO HOGS BY BUCKWHEAT.—Mr. S. RUCKMAN, of Highland county, Va., writes us that he lost several hogs last fall, while they were feeding on the "tailings" left after cleaning buckwheat, and he wishes to know whether the experience of others would justify the belief that the hogs died in consequence of any injurious effects from the substance mentioned. We should like to hear the remarks of others, but in the mean time would observe, that we should be inclined to attribute the injury to the *dust* which the hogs probably inhaled while working over the refuse. We have known similar results from hogs being allowed access to the chaff of oats, barley and rye.

PRICE OF GUANO.—W. H., Machias, Me. We understand the price of guano in Boston, would be from three to five dollars per hundred, according to quality.

BONES WITH SULPHURIC ACID.—W. H. We have not heard of bones having been prepared with sulphuric acid in this country; but in England they are much used for manure when decomposed in this way, and for *immediate* effect are considered better than when only crushed.

Other inquiries will be answered next month.

INDIA RUBBER HORSE COLLAR.—This is a new invention, consisting of India rubber inflated with air. It is said to fit easier on the horse's neck than anything yet made.

In *New South Wales*, according to foreign papers, more than 350,000 cattle and sheep have, within the last two years, been boiled up for their tallow.

MONTHLY NOTICES—TO CORRESPONDENTS, &c.

Communications have been received since our last, from C. F. Wells, C. E. G., Andrew Bush, S. W. Jewett, C. W. Mulford, Claudius Allen, Thomas Andrews, Vermont Subscriber, F. Holbrook, E. D. Andrews, J. Hildreth, E. D. Pierson, Dan. Gold, L. S., Jona, Bowers, Wm. R. Prince, Nathan Ide, Chas. Betts, Dean, James Otis, F. E. Stowe, James Jenkins, E. M. Hoyt, A Subscriber, I. Hildreth, W. Ansley, C. E. Goodrich, David Sinclear, Jr., Thurston Wood.

Books, Pamphlets, &c., received since our last, as follows: A Universal History of the most remarkable events of all nations, No. 1, and The Children at the Phalanstery, a familiar Dialogue on Education, by F. Cantayrel, from the Publisher, W. H. Graham, New-York.——Public Documents from Hon. J. I. Slingerland.——Address of Prof. Shepard before the Agricultural Societies of Hampshire, Franklin and Hampden counties, at their last Fairs, from Sidney Chapin, Esq.——Report of the Ohio State Board of Agriculture, for 1847, from M. B. Bateham, Esq. Ed. O. Cultivator.——Illustrated Life of Gen. Scott, from the publishers, A. S. Barnes & Co. N. Y.——Transactions of Trumbull Co. (O.) Ag. Society, for 1847, from F. E. Stowe, Esq.——Agricultural Reports of the Rhode Island Society for the Encouragement of Domestic Industry, from Jno. Wilson Smith, Esq.——The Northern Whig, Belfast, containing the annual report of the Royal Society for the promotion and improvement of the growth of Flax in Ireland, from Mr. John Roberts.——Report of the Trustees of the N. Y. State Library for 1847.——Report on Plank Roads to the Council of Wisconsin, by Hon. P. White.

☞ The gentleman who purchased a copy of the Transactions of the N. Y. S. Ag. Society, at the office of the Cultivator, on the 28th of February, will have $2 returned to him if he will furnish us with his address. The boy who sold it, made a mistake of $2 in the price.

New-York State Agricultural Society.—The premium list for the present year has been published. It is on a more extended scale than any heretofore offered by the Society—the amount of the premiums being upwards of $6000. We had intended to have published the list in our present number, but in the crowd of articles that is pressing upon us, it is impossible to spare so much room as the list would occupy. It has been published in one or more of our city papers, and copies may be had by application to the secretary, B. P. Johnson, Esq., Albany.

The next exhibition, as we have before stated, is to be at Buffalo; and we are pleased to learn that the citizens of that city and vicinity are already engaged in making the most liberal provisions for the occasion; both as regards the accommodation of visitors, and the means for forming the largest and most interesting show ever held in the State.

Ball Seminary.—An advertisement in regard to this institution will be found in this number, to which we would call attention. The school has been in operation for several years, and from the information we have received, and our acquaintance with one of its principal founders and managers, we have great confidence in its character and usefulness. It will be seen that arrangements have been made to give instruction in reference to agriculture and the arts, in the form of lectures illustrated by apparatus and experiments. This department will be under the charge of Hon. L. C. Ball, a gentleman who has been for two years engaged in chemical investigations in the laboratory of Prof. Emmons, and who, to eminent scientific knowledge, unites sound practical judgment. He is fitting up a proper laboratory, for the analysis of soils, rocks, plants, &c., to which the students of the school will have access. In connection with instruction in reference to the principles of chemistry and geology, Judge Ball will give, also, such practical information in regard to the details of husbandry, as will be calculated to render his pupils *successful farmers*. The seminary is located in a pleasant neighborhood, distinguished for its healthfulness, beauty of scenery and fertility.

Fine Mutton.—We acknowledge the reception of two legs of excellent mutton, from Mr. J. McD. Mc Intyre, of this city. Mr. Mc I. has been for some years distinguished as a breeder of superior Cotswold and South Down sheep, and has been a frequent and successful competitor for the prizes of the New-York State Agricultural Society, and the American Institute. His fat sheep have been for a few years past, mostly sold to feed the epicures of Boston, and have brought an average price of from eight to ten dollars per head. He lately slaughtered two fine sheep, two years old, a cross of the Cotswold and South Down, which weighed dressed, with the head on, 110 and 100 pounds. Mr. Mr. McI. has only bred a few sheep of this cross for an experiment; but so far, he has found them to fatten with greater rapidity at an early age than any others.

Superior Apple.—Mr. Ambrose Stevens of New-York, lately left with us a specimen of a variety of apple obtained by him in Washington, D. C., and called there the "*Virginia Pippin*." It was grown, as Mr. S. understood, in the valley of the Rappahannock. It seems to us an apple of very excellent quality—not inferior to any within our knowledge. We defer for the present, a particular description; and would be greatly obliged to any of our Virginia friends, if they would tell us any thing in regard to the origin of the apple, (or one known by this name,) and the estimation in which it is held where known.

Large Sheep.—In our October number for last year, we noticed a couple of long-wooled rams exhibited at the State Fair at Saratoga, by Mr. C. B. Reybold, of Delaware city, Del. Mr. R. informed us at Saratoga, that the weight of his rams, at the last time they were weighed, was 320 and 288 pounds. In a letter received from him under date of February 22, last, he says: "I weighed the two old rams this morning. They weighed 344 and 288 pounds."

The Horse "Norman," or "Morse's Grey."—This horse, so well known as the sire of fast trotters, and valuable carriage and road horses, has changed owners. He has been purchased by Mr. I. T. Grant, whose advertisement will be found in the present number. We have no hesitation in saying that mares sent from a distance will receive all proper care and attention.

Curing Hay.—Mr. Charles Betts, of Redford, Mich., writes: "I learned from the Cultivator how to cure clover hay in cock. Taking the hint, I adopted this plan in curing all hay—timothy, red-top, &c.—and it is now almost as green as when cut. It has a sweet odor, and does not smoke when it is stirred."

Multicole Rye.—All the accounts of which we have heard concerning the produce of this kind of grain in this country, represent it as far preferable to the

common rye. WILLIAM MASSIE states, in the *Southern Planter*. that he obtained half a gill of it in 1845, from which he obtained, the first year, just one bushel. This bushel was sown in 1846, on an acre and three-fourths of ground, and produced forty-five and a-half bushels. The soil was of only medium quality in both cases, and received no manure. He thinks this variety of rye will prove a very valuable acquisition to the rye growing region of Virginia—the common rye having ceased to be valuable there. Five-eighths of a bushel, he thinks is enough to sow on one acre, as it tillers very much.

STILTON CHEESE.—At a late meeting of the Executive committee of the N. Y. State Ag. Society, the president, L. F. ALLEN, Esq, presented a specimen of this variety of cheese, manufactured by Mr. HENRY PARSONS, of Guelph, Canada West. It was pronounced by all who examined it, of superior quality.

FAT CATTLE.—A lot of thirty-four beef-cattle, owned and fattened by Col. J. M. SHERWOOD, of Auburn, passed through this city on their way to Brighton market on the 20th ult. They were a prime lot, and several of them were of extraordinary fatness. The live weights of some of them were as follows:—1 pair oxen 6 years old, 2,170 and 2,336, equal to 4,506 lbs.; 1 pair 6 years old 2,100 and 2,040, equal to 4,140 lbs.; one pair 5 years old, 2,012 and 2,106, equal to 4,118 lbs.; one cow 6 years old, (very fat,) 1,708 lbs. Most of these cattle were grade Durhams—the cow was half-blood—got by Col. S.'s bull Archer. There was a pair of very handsome grade Devon steers—nearly full blood. The lot comprises about one-third the number fattened by Col. S. the past winter—the remainder will be taken to market soon.

NORMAN HORSE LOUIS PHILIPPE.—Mr. R. B. HOWLAND, of Union Springs, Cayuga county, N. Y., has lately purchased this young stallion. He was bred by EDWARD HARRIS, Esq. of Moorestown, N. J., and was foaled in 1843. His sire ("*Diligence*,") and dam were imported from France by Mr. HARRIS. He is a very staunch colt—close-jointed, with very large sinews and well developed muscles—and his parts form a general combination indicative of great strength and power. His girth immediately behind the withers is 6ft. 3in.; measure round the hock twelve inches; below the knee ten inches. His weight, on the scales at the depot at the Boston Railroad, was 1120 pounds. We think this animal is calculated to produce a useful stock of horses for farm use, and we trust Mr. HOWLAND will be remunerated for the great expense and trouble he has incurred in procuring him. We expect to have a cut and more particular description of this horse in our next number.

☞ Breeders of Horses in Central New-York, are referred to the advertisement of the Morgan Horse "GEN. GIFFORD," in this number.

PRESERVATION OF THE TOMATO.—Several correspondents request information in regard to the best method of preserving the tomato, in such a manner as to retain the greatest amount of its natural taste and virtues. We should like to know what methods have proved best.

CONNECTICUT PIGS.—A Connecticut paper states RALPH R. PHELPS, Esq., of Manchester, sold six pigs last spring, the average dressed weight of which, at an average age of nine months and nineteen days, was 378 2-3 lbs. The separate weights were as follows: one at nine months and a half, weighed 345 lbs; two at ten and a-half months, 700 lbs.; one at nine months, 375 lbs.; one at nine months and fourteen days, 412 lbs.; one at 9 months and thirteen days, 440 lbs.

GOOD CROPS OF CORN—Mr. WM. BEAN, of Jeffersonville, Pa. informs us that JOHN MILLER, of that neighborhood, raised last year, 94 bushels of corn [illegible] acre, [illegible] and that others in the vicinity raised from 60 to 80 bushels per acre. He says—"a spirit of emulation has been awakened among us, and a general benefit will result to the agricultural community in this district."

FAT SHEEP.—We learn that thirty-six sheep, fattened on the farm of Messrs. GOODYEAR, in Cobleskill, Schoharie county, sold for $380—or $10.55 per head.

FRENCH GUANO.—A sample of the French Guano, advertised by Mr. BOMMER, may be seen at this office. Mr. B. proposes to establish a manufactory of this manure in New-York.

QUICK GROWTH.—The *Mass. Plowman* states that Mr. H. JOY, of Townsend, Vt., lately brought to Boston a pig, seven-eighths of the Suffolk breed, six months and eight days old, which weighed in Fulton market, *three hundred and two pounds*.

☞ Quite a number of communications, intended for this number, are unavoidably laid over to next month.

Notices of New Publications.

REPORT OF THE OHIO STATE BOARD OF AGRICULTURE.

We are indebted to M. B. BATEHAM, Esq., for a copy of the Second Annual Report of the Ohio State Board of Agriculture. It affords evidence that the agriculture of Ohio is steadily improving. The crops of last year, with the exception of wheat and potatoes, are represented as having been unusually abundant, and having been sold at remunerating prices. The wheat crop of 1847 is reported as one-fourth to one-third less than that of 1846, but the quality of the last year's crop is spoken of as superior. Indian corn is reported as a very large crop—much larger than usual. The Cincinnati *Chronicle*, in reviewing the report, estimates the wheat crop of 1847, at 16,000,000 and the corn crop at 55,000,000 for the entire State. Potatoes suffered from the disease and the general crop was light. The report states that no useful conclusion has been reached in reference to the disease, except that early planting has proved most successful.

The number of sheep in the State, according to the returns from the different counties, is 1,071,037; and it is computed that there were exported from the State in 1847, 1,933,435 pounds of wool.

The export of cheese from the State, was chiefly from five counties—Trumbull, Portage, Geauga, Madison and Ashtabula, and the amount from these was 11,450,000 lbs. The export of butter from nine of the principal dairy counties, is put down at 1,020,000; and the *Chronicle* estimates the export for the whole State, at 4,000,000 lbs.

THE ARCHITECT; a series of Original Designs for Domestic and Ornamental Cottages, connected with Landscape Gardening, adapted to the United States; Illustrated by Drawings of Ground Plots, Plans, Perspective Views, Elevations, Sections and Details. By W. H. RANLETT.

Our readers will recollect a previous notice of this work, while the first volume was in course of publication. That volume is now completed, and the first number of the second is before us. It is a beautiful and highly useful work, and is calculated to be greatly beneficial in the dissemination of correct architectural information. The conductor remarks that "the work is intended as much for the million as for the wealthy few." He adds,—"Men of moderate circumstances and the really poor have been so long accustomed to plain, uncomfortable houses, that beauty and convenience have come to be regarded as solely the right of the wealthy and independent. We trust that some thing has already been done in the preceding numbers of this work to dispel such a degrading delusion. The

humblest cottage should in beauty of form and convenience of construction, be equal to the finest villa, and the laboring man may, without extra expense, be sheltered by a roof constructed upon the same principles of architectural beauty as that which shelters his wealthy employer. As the sun shines, the rain falls, flowers blossom, the stars twinkle, and birds sing for all, so are the discoveries of science and the progress of art for all. If it were the sole purpose of the architect to construct showy houses for the rich, and if his arts were not to be employed in embellishing the dwellings of the poor, as well as in rearing splendid churches and spacious mansions, his noble profession would lose half its dignity."

The ARCHITECT is published monthly at the Tribune Buildings, New-York, at fifty cents per number.

THE WESTERN JOURNAL of Agriculture, Manufactures, Mechanic Arts, Internal Improvement, Commerce and General Literature.

We have received two numbers of a publication with the above title, published at St. Louis, Mo., by M. TRAVER and T. F. RISK. The design of the work is expressed by its title. The numbers before us contain several able and valuable articles. It is published monthly, at $3 a year in advance.

EWBANK'S HYDRAULICS AND MECHANICS.

The second and third parts of this work, now in course of re-publication by GREELY & McELRATH, are in good style. The engravings are neat, and afford good illustrations of the purposes for which they were designed. Considerable attention is now being given to the subject of hydraulics, and those who are interested in this branch of science would do well to purchase this work. The price is twenty-five cents for each number, which contains eighty pages.

FIFTEENTH ANNUAL REPORT of the State Lunatic Hospital, at Worcester, Mass.

The amelioration of the condition of the insane, must afford pleasure to every benevolent mind. The increase and diffusion of the spirit of philanthropy, is perhaps, in no way more conspicuous, or its results presented in a more gratifying manner than in the improvements which have been made in the management of this unfortunate class of mankind.

The Institution at Worcester, is one of the largest of the kind in the country, and its excellent condition, under the supervision of Dr. CHANDLER, as well as under his predecessor, Dr. WOODWARD, has been the subject of frequent praise. The report is ably drawn up, and presents the details of the management of the Institution in an interesting manner.

THE AGRICULTURIST and Canadian Journal; a consolidation of the British American Cultivator and the Canada Farmer.

We have received the first number of the above work, which is to be published semi-monthly at Toronto, by R. BREWER & Co. Terms one dollar a year in advance. The work has a very respectable appearance, and we trust it will meet with a liberal patronage from our Canadian brethren.

AMERICAN JOURNAL OF SCIENCE AND ARTS.—The number of this able work for March is before us. Among its contents we notice an article on the "Production of Light by Chemical Action," by Prof. DRAPER; "Parallelism of the Palæozoic Deposites of North America, with those of Europe," by VERNEUIL, translated by Prof. JAMES HALL. "Notes upon the Drift and Alluvium of Ohio and the West," by CHARLES WHITTLESY. An article from Dr. HARE, of Philadelphia, on the Theories of Electrical Phenomena. Chloroform, by B. SILLIMAN Jr. Proceedings of the American Association of Geologists and Naturalists, at Boston, September, 1847. Abstract of a Meteorogical Journal kept at Marietta, Ohio by Dr HILDRETH. The high character of the Journal as a scientific work entitles it to a liberal support. It is published at New-Haven, every second month, at $5 per year. Conducted by Professors SILLIMAN & DANA.

AGRICULTURAL JOURNAL, and Transactions of the Lower Canada Agricultural Society.

This is a monthly periodical, which was commenced in January last. It is designed as the organ of the Lower Canada Agricultural Society, a spirited and able association, incorporated in 1847. The numbers of the Journal which we have received, are well filled.

PRICES OF AGRICULTURAL PRODUCTS.

New-York, March 18, 1848.

FLOUR—Genesee per bbl. $6.75—Ohio and Michigan $6.69.

GRAIN.—Wheat, Genesee, per bu., $1.50—Ohio, $1.40—Corn, northern, 55a50c.—Rye, 80a82c.—Oats, 48a50c.—Barley 80a90c.

BUTTER—Orange County, per lb., 20a22c.—Western, dairy, 16a18 c

CHEESE—per lb., 6a7½c.

BEEF—Mess, per bbl., $8.12½a$9.—Prime $5.12½a$6.

PORK—Mess, per bbl., $10.12½a10.25—Prime, $9.50.

HAMS—Smoked, per lb., 7½a8c.

LARD—Per lb., in kegs, 8 3-8a8½c.

HEMP—Russia clean, per ton, $225a$230.—American dew-rotted, $120a$140.

HOPS—First sort, per lb., 5½a6½c.

COTTON—New Orleans and Alabama, per lb., 6½a10c.—Upland and Florida, 6½a8½c.

WOOL—(Boston prices.) March 18.

Prime or Saxon fleeces, washed per lb.....	45a50	cts.
American full blood fleeces.....	40a45	"
" three-fourths blood fleeces.....	35a38	"
" half blood do	32a33	"
" one-fourth blood and common.....	28a30	"

The steamer Cambria arrived at Boston on the 18th inst., having English papers to the 28th February. The markets for breadstuffs and American provisions were dull, and without much change from previous dates. The news has not effected our domestic markets.

APRICOT TREES FOR SALE.

THE subscriber has 5,000 trees of his Early Golden Apricot for sale this spring. The trees are of good size, smooth and thrifty. Also a general assortment of Fruit Trees, and a large quantity of Isabella Grape Vines. CHARLES DUBOIS,

March 14, 1848—1t. Fishkill Landing, New-York

HOPE-TOWN OATS.

FIFTY bushels Hope-Town Oats, raised expressly for the Ag. Warehouse and Seed Store, from seed imported the past season by the proprietors. They are much earlier than the ordinary oats raised here, ripening when sown side by side some two weeks in advance—yield well, and the kernel is large and heavy. Price, $1 per bushel.

For sale at the Albany Ag. Warehouse, Nos. 10 & 12 Green-St., Albany.

PRINCE'S LINNÆAN BOTANIC GARDEN AND *Nurseries, Flushing, New-York.*

WM. R. PRINCE & Co., successors of Wm. Prince, and sole Proprietors of his great collection of Fruit Trees, &c., will transmit their new Catalogues (36th edition) to all post-paid applicants who desire to purchase. Also their new Wholesale Catalogues to all Nurseries. This immense collection is unrivalled in Europe or America. The Fruit and Ornamental Trees are of the largest sizes for planting, except a few new kinds of late recent introduction. Extra large sized Trees can be supplied of the Ornamental kinds from twelve to twenty feet, and extra sized Fruit Trees of most kinds, including *Ten Thousand* Standard and Pyramid Pears, *in a bearing state*, the former eight feet with heads, and the latter 3 to 4 years from the graft. Peaches at very reduced rates. Evergreens by 100 to 1,000, at low rates. Apples 3 to 4 years from the graft. A great supply of Cherries, Plums, Quinces, Spanish Chestnuts, Native and Foreign Grapes, Fastolf and other Raspberries, Gooseberries, Currants, Strawberries, Rhubarb, Asparagus, &c. 30,000 Hawthorns, and 50,000 Honey Locust, for hedge, 2 years, at $5.—Osage Orange, Buckthorns, &c.

All are at reasonable prices compared to the quality of the articles, and will be packed in a manner to insure success.

April 1—1t.

IMPORTANT TO FARMERS, GARDENERS, AND FLORISTS.

A New Manure, Warranted Superior to any Other.

MR. BOMMER has on hand one hundred casks—500 lbs. each—of the celebrated "French Guano," an inodorous chemically prepared fertilizing Powder, adapted to every soil and all plants, and acknowledged in Europe as the best and most profitable manure ever known. Price of a cask, $5.

Families having small gardens or flowers, can be supplied with small bags containing 15 lbs. at 25 cents, or 36 lbs. at 50 cents, at his office 72 Greenwich-st., New-York city.

April 1—tf.

COMMERCIAL GARDEN AND NURSERY OF PARSONS & Co.,

Flushing, near New-York.

THE planting season being near at hand, the Proprietors now offer for sale in addition to their usual assortment, many new and choice varieties of Apples, Pears, Cherries, Peaches, Plums, Grapes and other fruits. They have also a fine stock of Pears on Quince ready for fruiting. By testing the kinds which they cultivate, and giving close personal attention to their propagation, they insure the correctness of the varieties which they send out. Their assortment of Ornamental Trees and Shrubs includes the standard varieties for the Avenue or Lawn, as well as many new and desirable kinds. Their collection of dwarf and tree *Roses* embraces all that is desirable.

Catalogues furnished gratis on application.

April 1—1t.

PROUTY & BARRETT,

Manufacturers and Wholesale and Retail Dealers in Agricultural and Horticultural Implements, Garden, Grass, Field, and Flower Seeds, 194½ Market-St., Philadelphia,

OFFER for sale an extensive assortment of FARM and GARDEN IMPLEMENTS and SEEDS, consisting in part of the following, viz:—

Prouty & Mears' Patent Centre-draught Self-sharpening, Right and Left Hand, Subsoil and Side Hill, Wheel and Swing PLOWS, with Points and Shares so strong and thoroughly purified and hardened, that 100 acres of land have often been plowed with a *single set.*

These Plows are constructed of the best materials, and of the highest finish, and for ease of draught and management, the facility with which their points and shares are turned and sharpened, the eradication of weeds and the thorough cultivation of the soil, they stand unrivalled in the market. They are warranted to work in any soil, and to give perfect satisfaction after fair trial, or they may be returned, and the money refunded.

To these Plows were awarded TWENTY-THREE PREMIUMS at Trial Matches, during the past year, proving incontestably their great superiority over their numerous competitors.

Improved Cultivators, with steel teeth; Harrows, Revolving Horse Rakes, Agricultural Furnaces and Cauldrons, Corn Mills, Sugar Mills, Seed Planters, Corn Planters, Cheese Presses, Ox Yokes, Hovey's Spiral Hay, Straw, and Corn-stalk Cutter; Corn Shellers, Grant's Patent Fan Mills, and other approved patterns.

Spain's Improved Barrel Churn—Constructed in such a manner that the whole reel or dashers can be removed (whole) from the inside; the Churn is then clear of all impediments in the way of removing the Butter, and of a perfect cleaning.

Cast Steel Hoes, Shovels, Spades, Hay and Manure Forks, Scythes, Snaths, Briar Scythes and Hooks.

AGRICULTURAL, HORTICULTURAL AND FLOWER SEEDS, in great variety, raised expressly for this establishment by careful and experienced seed growers, and warranted.

☞ Orders solicited.

Philadelphia, April 1, 1848—2t.*

NEW WORK ON THE ROSE.

The Rose; its History, Poetry, Culture, and Classification. By S. B. Parsons. New-York: Wiley & Putnam, pp. 280, royal octavo, with Colored Engravings.

A HANDSOME octavo volume, fully redeeming the promise of its title-page, which the reader will have noted takes in a wide field of practical and classical information. With the practical part of his subject, the culture and classification of the Rose, and with its history to some extent, we expected to find the author somewhat familiar, seeing that he is a well known and successful cultivator. But even in these respects, he has shown an amount of knowledge which we scarcely supposed any individual could have brought to their elucidation; while in the literature of the rose, so to speak, he has brought together such numerous tributes to its beauty, fragrance and emblematical character, as prove no mean acquaintance with the best poets. Indeed, his volume is at once agreeable, instructive, and curious, a very pleasant companion to the mere reader, while to the amateur and the professed cultivator of this most beautiful of Flora's gifts, it will be invaluable.—*N. Y. Commercial Advertiser.*

Altogether this may be considered the most agreeable and complete work on the rose in the English language. The author has not only collected and arranged all of most interest and value that has hitherto been written on this subject, but he has interwoven through the volume a good deal of interesting information, drawn from his own experience and observation, which has not before been given to the public. The volume is not simply a practical treatise for the rose cultivator, but a pleasant contribution to the library of the scholar, or the book-table of the lady's boudoir.

The volume contains colored plates of two of the new Roses which have elicited most admiration within the last three years—*La Reine* and *Chromatella.*—*Horticulturist.*

We regret that this beautiful and really valuable volume did not arrive while we had room for a notice worthy of its claims to public favor. All that romance, poetry, and science have endowed the Rose with—all that philosophers have found, and lovers fancied, and ladies felt, about this garner of sweet associations, is here set forth, and worthily; while on two shining pages the beauty herself appears, fairly mirrored in her most magnificent aspect, and seeming only to ask the plucking. We love the book.—*Union Magazine, by Mrs. Kirtland.*

April 1—2t.

THE subscriber, manufacturer and dealer, has constantly on hand an extensive assortment of Agricultural Implements of the latest and most approved patterns.

Plows adapted to every description of soil, embracing a greater variety of patterns than can be found in any other establishment in the United States.

Moore's highest premium Plows. Two and Three Furrow Plows.
Freeborn & Hitchcock's do. Side Hill and Double Mold do.
Minor, Horton & Co's do. Cultivators with Steel and Cast
Ruggles, Nourse & Mason's do. Teeth.
Prouty & Mear's do. Harrows plain and double hinged
Subsoil do. Garden & Canal Wheelbarrows.

Single and Double Corn Shellers, price $5 to $10.

Straw Cutters, Greene's, Steven's, Sinclair's, and other approved patterns.

Mills for grinding Grain. Corn and Cob Crushers.

Horse Powers and Threshing Machines.

Fanning Mills,	Revolving Hay Rakes,
Rice do.	Hay and Manure Forks,
Coffee Hullers,	Scythes & Snathes,
Sugar Mills,	Ox Yokes and Bows,
Grain Cradles,	Log and Trace Chains,
Seed Sowers,	Spades and Shovels.

Plow Castings, Castings for Horse Powers, Mill and Gin Geer, &c., &c. Also on hand and made to order, every description of Brass, Copper and Iron Wire, Cloth, Sieves, Screens, Riddles, &c., &c., all of which will be sold as low as they can be purchased at any establishment in the country.

JOHN MOORE,

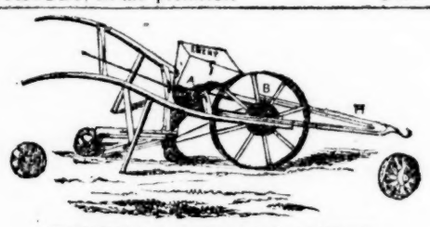
Ag. Warehouse, 193, old No. 183 Front-st., New-York.

April 1—3t.

TWO FARMS FOR SALE,

HANDSOMELY situated one mile north of Northville in the southern part of Cayuga county, each containing seventy-five acres of excellent land, in fine condition, with good farm buildings, orchards, &c. These farms are divided by the stage road between Auburn and Ithaca, equi-distant from each. They will be sold separately or together.

Apply to DAVID THOMAS, near Aurora, Cayuga county, or to ISAAC JACOBS, on the premises. 3 mo. 7, 1848.



EMERY'S SEED PLANTER.

WITH this Planter all small seeds are dropped by means of a revolving brush inside of the hopper, operating upon plates with holes in them, which plates are placed in grooves at the bottom of the hopper—any size hole being used which is found best adapted to the quantity and size of the seed to be sown, thus insuring precision and uniformity in the work. When Corn, Beans, Peas, or any heavy smooth seeds are to be dropped, the revolving brush and plate are removed, and a cylinder substituted with cups or cavities in it, which fill and empty by the gravity of the seed. These cups are made large or small by a simple set screw, which is readily turned up or down to receive any quantity of seed or none at all, thus enabling the quantity and distance between the hills to be regulated at pleasure. The movement of the cylinder is given by a simple small geer, and may, by the different rows of cogs on the large wheel, be regulated to give any velocity desired for different purposes. The furrower or plow can be placed up or down to suit a tall or short person at the handles—can be used by hand by one man, or can be drawn by a horse. From six to twelve acres of corn have been planted in the best possible manner in a day with them—according to the condition of the land.

The subscriber has a good assortment of them on hand and for sale at the Albany Ag. Warehouse, Nos. 10 & 12 Green-street, Albany. Price when fully rigged for all kinds of work, and strong for horse power, $14.

☞ For further particulars see Catalogue, gratis at store, or by mail. H. L. EMERY.

April 1, 1848.

NORMAN.

THIS celebrated horse will stand the ensuing season at the stable of James Rice, in Germondville, three miles north of the village of Lansingburgh. Norman is a beautiful dapple grey, 15¼ hands high, strongly made, and finely proportioned. He combines first rate trotting qualities, and great powers of endurance, with unsurpassed gentleness and docility. His colts are justly celebrated for speed, bottom and good temper—are eagerly sought after in the market, and command prices ranging from $150 to $500. The very high reputation of Norman's stock as "road horses," and the extraordinary prices they command, renders him by far the most profitable horse to breed from of any in the country. Gentlemen sending mares from a distance, may rest assured that they will have such attendance and keeping as the owners desire, and upon the most reasonable terms. The horse will be under the charge of his former owner. *Terms*—$10 the season. Insurance to be agreed upon. Communications addressed, I. T. GRANT, P. M., Junction, Rensselaer county, will receive prompt attention.

April 1—4t.

RARE VEGETABLE SEEDS.

THE subscribers, in addition to their usual regular supplies of all descriptions of Garden, Field and Flower Seeds, have received from the first sources in England, the following NEW AND VALUABLE VEGETABLE GARDEN SEEDS, which will be found an acquisition to any collection, and worthy of trial.

PEAS.

Waite's Queen of Dwarfs.—Very dwarf, and ready for table 20th May. Price $1.50 per quart. Price in London, 5s. sterling.

Early Wonder Peas.—Dwarf and very early; full podded. $1 per quart.

Fairbeard's Early Surprise.—Very early and uniform bearers. $1.50 per quart. Height three feet.

Flack's Victory.—Large blue peas; finer than Dwarf Imperials. 50 cents per quart. Height three feet.

Dancer's Monastery.—Very fine. Height three feet. 50 cents per quart.

Cormack's British Queen.—Very large, shrivelled pea; superior to the famous Knight's Marrow, extra fine. Height four feet. $1.50 per quart.

Champion of England Marrow.—Extra fine, and prodigious bearers. Height four feet. $2 per quart. This is the most rare pea in England.

Banksian Marrow.—Great bearers. Height four feet. 50 cents per quart.

Shilling's Grotto.—Height four feet—fine. 50 cents per quart.

Improved London Dwarf Marrow.—Fine. 37½ cents per quart.

EARLY CABBAGES.

Superfine Early Dwarf.—25 cents per ounce.

Early Sprotsboro.—Large, and very early. 25 cents per ounce.

Waite's New Early Dwarf.—50 cents per ounce.

Atkin's Early Dwarf Matchless.—50 cents per ounce.

Shilling's Early Queen.—50 cents per ounce.

Also, superior London Early York—25 cents per ounce.

BROCCOLI.

Early Walcheren.—Very superior. $1 per ounce.

Late Walcheren.—Extra fine. $1 per ounce.

New October White Cape.—$1 per ounce.

Lake's Superior White.—50 cents per ounce.

Late Close Headed Purple.—50 cents per ounce.

Field's Superb White.—50 cents per ounce.

CAULIFLOWER.

Fitche's New Large Late.—Extra fine. $1.50 per ounce.

Early Walcheren.—Extra fine. $1 per ounce.

Late Walcheren.—Extra fine. $1 per ounce.

MISCELLANEOUS.

Shepherd's New Giant Pink Celery, 25 cents per packet—*Seymour's New Red*, 25 cents per packet—*Early Prize Fighter Cucumber*, 25 cents per packet—*Ady's New Coss Lettuce*, 50 cents per ounce—*Pink Edged Union Lettuce*, 25 cents per ounce.—*Myatt's Garnishing Parsley*, 25 cents per ounce.

Also, an extensive assortment of valuable AGRICULTURAL SEEDS, among which are *Skirving's New and Improved Ruta Baga*, to which has been awarded several premiums by the Royal Agricultural Society of England, $1.50 per lb—*Dickson's Improved Ruta Baga*, $1.25 per lb.—Best stock *Mangel Wurtzel—Silesia Sugar Beet—White Field Belgian Carrot—Spring Tares or Vetches*, a valuable and nutritious soiling feed for horses and cows. Also, *White Lupins*, for soiling—*Italian* (annual) and *Pacey's Perennial Ray Grass—Sweet Vernal Grass—Herds and Blue Grass—Fine Mixed English Lawn Grass*, 50 cents—*White Dutch Honeysuckle Clover—Lucerne or French Clover—Yellow and Scarlet Trefoil*—Clean *Potato Seed*, 25 cents per packet.

Buckthorn Seed—Maclura or Osage Orange, and *Honey Locust, or Gleditschia*, for Hedging, the last forming an impenetrable fence. *Yellow Ship Locust*—with every thing new and good procureable from both Hemispheres, whether for the Field, Garden or Parterre.

All the above are of the growth of 1847, and warranted genuine.

JAMES M. THORBURN & CO.,
No 15 John-Street, near Broadway, New-York.

☞ Catalogues gratis, on application. For new Flower Seeds, &c., see future advertisement. April 1, 1848—1t.

ROCK SALT.

THIS Salt is hard as alum, and is the best known for stock, and is the cheapest and most economical—as it may be laid upon the ground, or in racks and mangers, where the cattle lick it as they may desire, without getting an excess, or suffering injury from its use. For sale in any quantity at the Albany Ag. Warehouse, Nos. 10 & 12, Green-st.

VERY DESIRABLE AND VALUABLE FARM FOR SALE.

THE subscriber offers for sale his farm, pleasantly situated on the Union Turnpike, within half a mile northeast of the city of Hudson, Columbia county, N. Y., containing 70 acres of good land, under a good state of cultivation, and well watered. About 30 acres of which are good plow land, six acres of wood, the remainder, is loam, suitable for plow or meadow land. There is a substantial Brick House, a Work Shop, Barn, and necessary outbuildings. Likewise a Cottage on the premises.

This property was formerly owned and improved by the late Elisha Williams, Esq. The subscriber considers it the most desirable property in the neighborhood. To any person wishing to engage in the Milk, Nursery or Gardening business, it offers great advantages. Title indisputable.

Enquire of MILLER & McKINSTRY, Solicitors, Hudson, or the subscriber on the premises. T. H. PEGLER.

April 1, 1848—1t.*

W. & B. DOUGLAS' IMPROVED PREMIUM HYDRAULIC RAM.

A PERFECTLY simple and effective machine for forcing a portion of a brook or spring to any required distance or elevation, where a proportionate fall can be applied.

A SILVER MEDAL was awarded to the subscribers on their Improved Hydraulic Ram by the American Institute, at the Fair held in the city of New-York, in October, 1847. A PREMIUM was also awarded on the same by the Middlesex County Agricultural Society, at their Fair held in this city in October, 1847.

The various uses of the Ram are at once obvious, viz: for the purposes of irrigating Lands, and supplying Dwellings, Gardens, Farms, Factories, Villages, Engines, Railroad Stations, &c., with running water.

The simplicity of the operation of this machine, together with its effectiveness and very apparent durability, renders it decidedly the most important and valuable apparatus yet developed in Hydraulics, for forcing a portion of a running stream of water to any distance and elevation, proportioned to the fall obtained.

It is perfectly applicable where no more than 18 inches fall can be obtained, yet the greater the fall applied, the higher may the water be conveyed, the quantity raised varying in proportion to the height with a given fall. It will raise say one-eleventh of the water ten times the height of the fall to which it is applied. Thus if applied under a fall of five feet, with a supply of eleven gallons per minute, it will force up and discharge at an elevation of fifty feet from machine, one gallon per minute; and under the same head or fall it will of course raise and discharge a larger quantity of water in proportion as the height to which it is conveyed is diminished, and so a less quantity a greater height.

This ram is constructed with an Adjuster, which renders it decidedly superior to any thing of the kind yet invented, as by this improvement the same machine may be conveniently varied in capacity, and at once adapted to various sized streams!

They are composed of metal, and are a very neat, compact and portable article—No. 4, the ordinary size, weighing but about 35 lbs., and occupying only about a cubic foot of space.

The subscribers, manufacturers of the Ram, offer the same in any quantity and of various sizes, to merchants, dealers, and all in want, at prices that cannot fail to please.

In all cases the article is warranted complete and perfect, so as to give the best satisfaction, or it may be returned.

Orders respectfully solicited, to which prompt attention will be given. W. & B. DOUGLAS,
Machinists and Iron Founders, Manufacturers of Pumps, Hydraulic Rams, Friction Rolls, Sheaves, Arbor Cranks, &c.

Middletown, Conn., April 1, 1848.

For sale at the Albany Ag. Warehouse, by H. L. EMERY, Nos. 10 & 12 Green-st.—in Troy, at H. WARREN'S Ag. Warehouse, 315 River-st; and by the Hardware and other traders in the principal cities of the United States.

PATENT RIGHT SECURED.

N. B.—The following certificates have been very kindly tendered us by gentlemen who have our rams in use:—

CERTIFICATES.

This is to certify, that I have purchased and put in use one of W. & B. Douglas' Improved Hydraulic Rams on my farm, and I am perfectly satisfied and well pleased with the operation of the article, and would recommend its use to all who are desirous of raising water from any spring or other running stream about their premises. The spring to which I have applied the ram is 50 rods from my house, and 75 feet below a level of point where I discharge the water in my dwelling. The size of the drive pipe applied to my ram is 1¼ inch calibre, and 40 feet long, and has a fall in running from spring to ram of 16 feet. The discharge pipe, (leading from ram to house) is ½ inch calibre, and 50 rods in length, and runs up an elevation of 85 feet, and the water discharges from the same, in my house, a perfectly steady and handsome stream, without any interruption whatever. And I would invite all, who wish to become acquainted with this new and truly useful invention, to call at my house in Durham and witness its operations.

Durham, Ct., Sept. 25th, 1847. SAMUEL G. TIBBALS.

This is to certify that I have in use on my farm, one of Messrs. W. & B. Douglas' Improved Hydraulic Rams, and can most cheerfully recommend it as being an article of the utmost value and utility to all who are desirous of raising a supply of water to their premises.

My spring is some 30 rods distant, and 35 feet below a level of the point where the water is discharged by the ram in my yard. The water is applied to the machine with but 3½ ft. head or fall, and thus a portion of it is raised 10 feet high to every foot of fall applied. The size of the drive or supply pipe, from spring to ram, is 1¼ inch, and the machine forces up and discharges a constant stream of water in my yard of say half an inch, conveying it up the above named elevation of 35 feet, and a distance of 30 rods.

Upper Middletown, Ct., Jan. 5, 1848. CHARLES MATHER.

THE GENUINE MORGAN HORSE,

GENERAL GIFFORD, will stand the ensuing season on Mondays, Tuesdays and Wednesdays, at the stable of George A. Mason, two miles northeast of Jordan; Thursdays, Fridays and Saturdays at the stable of D. A. Munro, Camillus.

Terms—$10 the season. Insurance to be agreed upon. Pasturage furnished by either of the subscribers at reasonable prices. Escapes and accidents at the risk of owners. General Gifford was sired by *Gifford Morgan*. His dam a pure Morgan. Breeders of good horses are invited to call and see him.

[illegible] 1, 1848—3t. MUNRO & MASON.

HALL'S EARLY JUNE POTATOES.

TWO hundred bushels of these superior and early potatoes for sale at the Albany Ag. Warehouse and Seed Store.

BALL SEMINARY,

HOOSICK FALLS, N. Y.

THIS institution, incorporated by the Regents of the University, and subject to their supervision, has for its object instruction in the higher branches of English education, and the classics, to an advanced standing in college.

Instruction will also be given in Geology, Mineralogy and Agricultural Chemistry; explained and illustrated by lectures, diagrams, and experiments.

The trustees have secured the services of P. V. Veeder, Esq, a graduate of Union College, and favorably known as tutor in that institution, to take charge of the school, who will be aided by competent and faithful assistants.

The Seminary is located in a healthy and pleasant village. The charges are moderate, and the advantages not surpassed by any school in the State. L. CHANDLER BALL, President.

April 1—1t.

GOOD NEWS FOR THE BLIND!

DR. KNAPP, Occulist, at 493 Broadway, Albany, N. Y., attends exclusively to cases of Blindness, from 9 to 5 o'clock. His method of restoring sight is of recent discovery, and the results have proved that where a person can distinguish day from night, a reasonable hope of recovery may be entertained. The treatment is without an operation.

On application, either verbal or by letter, persons will be designated (residents of Albany) who from being unable to discern any object, some for more than thirty years, (taken blind during infancy,) can now, after treatment, see to walk alone, and see articles as small as a silver pencil.

Those interested will consult the highest good of the Blind by giving such attention to the above as its nature merits.

P. S. Fluid Cataracts removed without an operation.

April 1—4t.

FRUIT TREES, *of Select Varieties,*

PROPAGATED from trees, whose genuineness or excellence has been proved by thorough examination of the fruit in bearing. For sale at the nursery of the subscriber.

☞ Persons wishing to set out new Fruit Gardens or Orchards, will, if they wish, be furnished with a carefully assorted collection, either large or small, of apples, peaches, cherries, nectarines, apricots, strawberries, hardy grapes, &c., of the best standard varieties, which have been selected after several years careful personal examination, *from several hundred sorts in bearing.*

A fine select assortment of ornamental shrubs, brilliant hardy roses, herbaceous perennial plants, evergreens perfectly hardened for transplanting, &c.

Orders with remittances promptly executed, and trees packed in bundles so as to be sent with perfect safety by canal or railway. Catalogues furnished gratis to all applicants. All communications to be post-paid, and directed, J. J. THOMAS,

March 1—2t. Macedon, Wayne Co., N. Y.

ISABELLA GRAPES,

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over ten years has conferred on the vineyards at Croton Point, are now offered to the public. Those who may purchase will receive such instructions as will enable them to cultivate the Grape with entire success, (provided their location is not too far north.) All communications, post-paid, addressed to R. T. UNDERHILL, M. D., 310 Broadway, New-York, till the 25th of April, and after that time to Croton Point, N. Y., will receive attention. He feels quite confident that he has so far meliorated the character and habits of the Grape Vines in his vineyards and nurseries, by improved cultivation, pruning, &c., that they will generally ripen well, and produce good fruit when planted in most of the northern, and all of the western, middle, and southern States.

New-York, March 1—2t.

ENGRAVING ON WOOD.

THE subscriber is prepared to furnish Engravings on Wood, of all descriptions, at the shortest notice, and upon the most reasonable terms. Also,

DESIGNS AND DRAWINGS

of machinery for the PATENT OFFICE, furnished with the necessary specifications.

Inventors of agricultural implements, as well as others who purpose applying for Letters Patent, or wish to have an engraved representation of a machine, will find it to their advantage to call, as the experience of the subscriber enables him to furnish the above in a short time, and at a less cost than is generally charged elsewhere.

N. B. Letters prepaid, containing a suitable sketch and description, attended to. In such cases, a reasonable fee is required.

Room No. 1, Sun Buildings. A. R. HAIGHT.

March 1—5t*. 128 Fulton-st., New-York.

HIGHLAND NURSERIES, NEWBURGH, N. Y.

NOTICE—A. J. Downing having retired from the Nursery business, heretofore conducted at this place under the firm of *A. J. Downing & Co.*, the same will be continued by the subscribers. They will not only endeavor to maintain the high character which those nurseries have had, but as the present stock is gradually drawn off Mr. Downing's grounds they will greatly enlarge the nurseries, and fully endeavor to meet the constantly increasing demand for trees grown here. A. SAUL & Co.

The undersigned strongly recommends the above Nursery firm to public confidence.

The practical management of the Nurseries will be in the hands of Mr. A. Saul, who has been at the head of this department for the last eight years, and his accuracy and fidelity in the propagation of fruits, and general care of nurseries during that time, are the best guarantee for the faithful and careful manner in which the business will hereafter be conducted. A. J. DOWNING.

Highland Garden, Newburgh, Feb. 15th, 1847.

A. SAUL & Co. beg leave to inform the patrons of this establishment and the public in general, that their stock of

Fruit Trees for Spring Planting, 1848,

Comprises nearly all the choice and rare varieties of recent introduction, among which are a fine stock of the *True Peach Plum*, (Prune Peche,) and Dubois' Early Golden Apricot, as well as a large stock, and full assortment of all the leading standard varieties; all propagated from *tested* fruit trees, or the most correct sources, under the personal supervision of A. Saul.

Their stock of ornamental trees is unusually large, (for particulars see Cultivator for October and November, 1847. Also Shrubs, Roses, Vines, &c. &c.: and as they propose clearing a large portion off of Mr. D.'s grounds this spring, to their new grounds, (40 acres,) they will dispose of a large portion of it at reduced rates to nurserymen, or amateurs who want to plant largely for the embellishment of new places. Also a fine stock of

5,000 American Arbor Vitæ, for screens, $15 to $30 per 100.

10,000 Osage Orange plants for hedges, $12 per 1000.

20,000 Buckthorn plants for hedges, $8 per 1000.

Orders addressed as above, *postpaid*, will receive prompt attention, and all trees, plants, &c. will be carefully packed and shipped to any part of the Union. Catalogues gratis to postpaid applicants.

Highland Nurseries, Newburgh, Feb. 10th, 1848.—2t.

SYRACUSE NURSERY.

THE subscribers would call the attention of the public to their extensive and well selected assortment of Fruit and Ornamental Trees, consisting of

200,000 Grafted Apple Trees, from 1 to 5 years' growth, 60,000 of which are from 6 to 9 feet high; 3 to 5,000 of the celebrated Northern Spy, 4 to 8 feet high, can be supplied without extra charge to those ordering other varieties.

6 to 8,000 Pear Trees, 4 to 7 feet high.

A few hundred of the Onondaga, and Van Mon's Leon Le Clerc, (very thrifty,) can be supplied, of one and two years' growth, from 50 cts. to $1.00 each.

1,000 Cherry Trees, 6 to 9 feet high.

10 to 15,000 Peach Trees, of the best early varieties, thrifty and free from disease.

Apricots and Nectarines, a good supply.

3 to 500,000 Apple Seedlings, from two to three years old, and unusually large.

Also, a large quantity of Horse Chestnut, Ailanthus, and Mountain Ash, of extra size, and good form, together with all the desirable varieties of the Grape.

All post-paid communications and orders containing remittances, promptly attended to. THORP & SMITH.

Syracuse, N. Y., Nov 1—6t

A STOCK AND GRAIN FARM FOR SALE,

SITUATED in Darlington township, Beaver county, Pa., seventeen miles from the mouth of Beaver river, on the road from Beaver to Salem, and Boardman, Ohio, containing near 600 acres; is in two lots, near each other; is well watered, with eight never failing springs. The improvements are two brick and one square log houses. The mansion is in cottage style; is forty-two feet in in front; has sixteen apartments, including kitchens and cellars. A frame bank barn, with stone basement, 63 by 38 feet; the corner posts twenty-two feet six inches high With ample granaries and stabling, and root cellar. Also hay and sheep houses, and sheds sufficient to shelter 900 sheep. A well selected orchard of apples, peaches, cherries and plums. All under fence except about thirty acres. It is well adapted to either grain, wool or dairy purposes. The title is indisputable. It is now well stocked with fine sheep, that will be for sale: for the character of the flock I refer to Mr. Samuel Lawrence of Lowell, Mass., or Messrs. Perkins and Brown of Springfield, Mass For terms apply on the premises.

February 7th, 1848—3t.* JOHN SMART.

FINE FARM FOR SALE.

THE subscriber offers for sale a beautiful Farm, of one hundred and sixty acres, under a high state of cultivation, within one and a half miles of the town of Greencastle, Putnam county, Indiana, (the seat of the Indiana Asbury University.) It has been occupied as a sheep farm for the last three years, to which it is well adapted; being all laid down to grass, well watered, with good timber, and limestone in abundance. The barns, fences and outhouses are new and convenient. A fine large orchard, embracing all kinds of choice fruit trees. To a gentleman desirous of educating his family, it offers an opportunity seldom to be met with in the west.

March 1—3t. A. H. NICHOLS.

AGRICULTURAL IMPLEMENTS AND SEEDS.

Ruggles, Nourse & Mason,

Inventors & Manufacturers of the genuine Eagle Plows.

TO their extensive assortment of Plows they have recently added new patterns, embracing many important improvements, in form, construction and fixtures, which adapt them to both shoal and deep plowing. The peculiar form of the mould-board to take up the furrow slice and turn it over in the most perfect manner, with the least power of draft, leaving the soil in the best possible condition for after cultivation, and production of crops. The acknowledged strength and durability of the castings, the uniform construction and superior finish of the wood by machinery, are among the characteristics of their Plows.

At the most full, perfect trial and investigation of plows ever had in this country, held at Essex, county Mass., the Judging Committee, in speaking of the Improved Eagle Plow, to which they unanimously awarded the highest premium, say:—"As near as we can ascertain, this Plow combines all the good qualities manifested in either of the others, with some peculiar to itself;" and further, "our attention was called to the *quality* of the castings on the Plows of Ruggles & Co., their *finish* and *durability*. Their appearance is certainly more perfect than any thing we have elsewhere seen." "The process of Chilling the Point, the entire Edge of the Share and Flange or Base of the Landside, gives a permanence and durability to the work that renders it of a decidedly superior character," "and we think there is no hazard in saying that the value of the parts thus made is more than doubled by the process."

The following is a copy of their table showing the comparative amount of power in pounds, required to operate the different plows.

Medium Size Plows.

Winslows's	of Danvers,	462 lbs.
Ruggles & Co.,	of Worcester,	412 "
Prouty & Co.,	of Boston,	425 "
Howard,	of Hingham,	412 "

Large Size Plows.

Winslow	of Danvers,	512 lbs.
Ruggles & Co., Eagle,	of Worcester,	425 "
Prouty & Co., Sod A	of Boston,	487 "
Howard,	of Hingham,	450 "

In 1846, the first premiums were awarded to competitiors who used Plows made by Ruggles, Nourse and Mason, at Plowing matches in the following named counties, to wit: Essex, Middlesex, Worcester, Hampshire and Berkshire, in Mass.; Orleans and Windham, Vt.; Kennebec, Me.; Litchfield and Hartford, Conn.; Prince George's and Montgomery counties, Md.

At the Cattle Shows held in 1847, the following premiums were won by Plowmen with Plows manufactured by Ruggles, Nourse & Mason.

ESSEX COUNTY, MASS.

Single Team,	1st Premium,	Plow,	Eagle No. 2.
" "	2d Premium,	"	Eagle No 2.
" "	3d Premium,	"	Eagle No. 2.
Double Team,	1st Premium,	"	Eagle No. 25.
" "	2d Premium,	"	Eagle Sward B.
" "	3d Premium,	"	Eagle No. 25.
Horse Team,	1st Premium,	"	Eagle No. 2.
" "	2d Premium,	"	Eagle No. 2.
" "	3d Premium,	"	Eagle No. 2.
Subbsoiling,	1st Premium,	"	Eagle S. S. No. 1.

MIDDLESEX COUNTY, MASS.

Single Team,	1st Premium,	Plow,	Eagle No. 2.
Doule Team,	1st Premium,	"	Eagle No. 20.
" "	2d Premium,	"	Eagle No. 20.
" "	4th Premium,	"	Eagle No. 25.
Horse Team,	1st Premium,	"	Eagle No. 2.

BRISTOL COUNTY, MASS.

Single Team,	1st Premium,	Plow,	Sward C.
" "	2d Premium,	"	Eagle No. 2.
" "	4th Premium,	"	Eagle No. 2.
Double Team,	1st Premium,	"	Eagle No. 20.

BARNSTABLE COUNTY, MASS.

Single Team,	1st Premium,	Plow,	Eagle No. 2.
Double Team,	1st Premium,	"	Eagle No. 2.
" "	2d Premium,	"	Eagle No 2.
" "	3d Premium,	"	Eagle No. 2.
Horse Team,	1st Premium,	"	Self Sh'ng No. 3.

HAMPDEN COUNTY, MASS.

Single Team,	1st Premium,	Plow,	Eagle No. 2.
" "	2d Premium,	"	Eagle No. 1.
" "	6th Premium,	"	Eagle No. 2.

BERKSHIRE COUNTY, MASS.

1st Premium, and 7 others, Plows, Eagle Nos. 1 and 2.
1st Premium for the best Plows.

HAMPSHIRE COUNTY, MASS.

Single Team, only used.	1st Premium,	Plow,	Eagle No. 2.
	7th Premium,	"	Eagle No. 2.
	8th Premium,	"	Eagle No. 2.

MERRIMACK COUNTY, N. H.

Single Team, only used.	1st Premium,	Plow,	Eagle No. 2.
	2d Premium,	"	Eagle No. 20.
	3d Premium,	"	Eagle No 2.

HARTFORD COUNTY, CONN.

	1st Premium,	Plow,	Eagle No. 25.
	2d Premium,	"	Eagle No. 2.
	3d Premium,	"	Sward D.

WASHINGTON COUNTY, VT.

1st Premium, Plow, Eagle No. 2.

ROCHESTER, MONROE COUNTY, N. Y.

Horse Team, only used	1st Premium,	Plow,	Sward C.
	2d Premium,	"	Eagle No. 25.

MONTGOMERY COUNTY, MD.

1st Premium for 3 horse size, Eagle No. 25.
1st Premium " 1 " " Self Sharpener No. 1.

They have also constructed a series of new patterns of plows of various sizes and forms, (some with wrought mould plates, shares, or points,) expressly calculated for the different *kinds* and *methods* of cultivation practiced in the Southern States, and which embrace all the alterations which a long and thorough investigation, and more extended acquaintance with southern culture has suggested, to render them peculiarly adapted to the wants of the planters.

Their stock of Garden and Field *Seeds* are raised especially for their trade, by most reliable and experienced growers, and are warranted fresh, and true to their names.

Their prices being *uniform*, purchasers can rely on having all orders executed on as favorable terms, and promptly as though they were personally present.

Dealers supplied on the most advantageous terms.

A supply of Plows and other articles from their establishment may be found at the stores of L. Tucker, Albany; A. B. Allen & Co., New-York city; R. L. Allen, New-Orleans; and at many other cities and principal towns throughout the country.

P. S. As it is impracticable here to give a detailed list of articles embraced in so great a variety, the proprietors propose to forward, (*gratis*) to persons requesting them, by mail or otherwise, descriptive catalogues of implements and seeds, of nearly 100 pages, embellished with cuts of tools, and embracing brief directions for sowing, planting and culture, rules for the application of Guano, Plaster and Bone Dust, with remarks on soils and plowing; and with general observations, list of agricultural and horticultural publications, &c. &c.

Worcester and Boston, Mass., March 1, 1848—3t.

FINE BLOOD MERINO SHEEP FOR SALE.

THE subscriber being about to retire from the farming business, offers for sale his entire flock of Merino sheep, which have been bred with the greatest care from the best flocks in the country. Of these 75 are ewes now with lamb by a buck from the recent imported flock of John A. Taintor, Esq., of Hartford, Conn.; 25 bucks one year old last spring from the above ewes, sired by the Rambouillet buck Chancellor; and 50 lambs the increase of last year, sired by the Rambouillet buck Grandee, now owned by the Rev. L. G. Bingham, of this place. As to purity of blood, fineness and weight of fleece, and strength of constitution, they are excelled by no Merinos in the country. The buck purchased from the recent importation of Mr. Taintor will also be offered for sale. To those wishing to improve their sheep, or those wishing to start a good flock, the present offers a rare opportunity, as they will be sold without reserve. Communications addressed to the subscriber will receive immediate attention. THOS. D. CANFIELD.

Williston, Vt., Jan. 15, 1848—3t.

HORSE POWER, THRESHER, AND CORN SHELLER DEPOT.

ORDERS for the "Warren's and Trimble's *best* two and four Horse Powers and Threshers," Hand Threshers, Waterman's Corn Shellers, and other Agricultural Machinery, at wholesale and retail, will continue to be promptly attended to, as heretofore, by the subscribers at No. 5 Burling Slip, and 126 Pearl-st., New-York city. Nov. 1, 1847.—8t. JAMES PLANT & Co.

POUDRETTE.

THE LODI MANUFACTURING CO. offer for sale their New and Improved POUDRETTE, at the following reduced prices: One barrel, $2; three barrels, $5; and seven barrels and upwards at $1.50 per barrel. It can also be obtained at their factory, on the Hackensack river, in bulk, at 25 cents per bushel, put on board of vessels or wagons. This is the most economical and effective manure for corn known. On good land, two barrels ($3 worth) will suffice per acre, and bring a good crop; the labor being less than one-half of an application of dung to the hill. Office of the Company, 51 Liberty-street; and of A. B. Allen & Co, agents, No. 187 Water street, New-York. Written communications (post-paid) will be faithfully attended to.

March 1—3t*.

TO BREEDERS OF FAST HORSES.

THE celebrated Stallion Colt "ANGLO-SAXON," will stand for the ensuing season, at the farm of *Josiah Crosby*, in North Andover, Mass. "Anglo-Saxon" was sired by the original Black Hawk, now owned by the Messrs. Hill, in Vermont. He will be four years old in July next. His color is a bright bay. He weighs a thousand pounds, and though not entirely broken to harness, has great speed and splendid action. He took the first premium at the last Fair of the Essex County Agricultural Society; and has been pronounced by amateurs a *perfect* animal. Like the rest of the "Black Hawks," he needs no encomium. Breeders are requested to examine and judge for themselves.

The "Lady Lawrence," a five years old chestnut mare, sired by Black Hawk, may be seen at the same stable. She can trot her mile in two minutes and forty seconds—has never been trained, and can be bought for $1[illegible] if applied for immediately.

North Andover, March [illegible]—2t*

CONTENTS OF THIS NUMBER.

COMMUNICATIONS.

Account of the Farming of E. Phinney—Removing Stones and Bushes—Manufacture of Manure—Field Cultivation, by F. HOLBROOK,..... 105
Comparison of Scotch and American Plows, by W.,..... 108
Manures—their Nature and Operation, by J. M. WARD,..... 109
Wool-growing in Illinois, by GEORGE FLOWER,..... 112
Descriptive List of Pears, by F. J. SCOTT,..... 116
Grafting and Pruning old Orchards, by I. HILDRETH,..... 118
Seeding Grass Lands, by E. D. PIERSON,..... 121
Pitching Hay by Horse-Power, by A PRACTICAL FARMER—Culture of Indian Corn and Potatoes, by E. V. W. DOX—Stall-feeding Cattle, by L. J. PLATT,..... 122
Bread-making by Machinery, by L.,..... 123
Economical Fences, by Jos. WATSON—Milking, by AN OLD MILKER—Shallow Plowing and Surface Manuring, by A MARYLAND SUBSCRIBER,..... 125

EDITORIAL.

Lands on the Canada Line—Improvement of Land,..... 107
Facts and Opinions, condensed from Books and Papers,..... 111
Diseases of Animals—Domestic Economy, &c..... 113
The Shrubbery and Flower Garden, with Select Lists of Shrubs and Flowering Plants,..... 114
Transplanting and Pruning Fruit Trees,..... 117
Apricots—Pears for Vermont—Apples at the South—Mulching Fruit Trees—Jannett Apple—Cranberries,..... 119
Varieties of Domestic Pigeons,..... 120
Rearing Lambs for Market—Red Root, to Destroy,..... 124
Interesting Experiments—Fat Animals—Ag. Discussions,..... 126
Improved Hydraulic Ram—Lawrence Scientific School, &c., 127
Answers to Inquiries, &c..... 128
Monthly Notices—To Correspondents, &c.,..... 129
Notices of New Publications, &c.,..... 131

ILLUSTRATIONS.

Figs. 30, 31, 32, 33—Illustrations of Plows,..... 108
Fig. 34—Ornamental Garden,..... 114
Figs. 35, 36—Pruning and Planting,..... 118
Fig. 37—Group of Pigeons,..... 120
Fig. 38—Horse-power Fork,..... 122
Fig. 39—Bread-making Machine,..... 123
Fig. 40—Hydraulic Ram,..... 127

ALBANY AGRICULTURAL WAREHOUSE.

THE subscriber hereby gives notice, that he has disposed of his interest in this establishment to Mr. HORACE L. EMERY, who will hereafter continue the business in his own name, at the old stand, Nos 10 & 12 Green-st., Albany. All demands against the establishment will be paid by him; and all persons indebted to it, are requested to settle their accounts with him without delay.

Mr. Emery has had the entire management of the Albany Agricultural Warehouse since it has been in my hands, and from an acquaintance thus formed with him, and from his long experience in the business, having been engaged in it some ten years, five of which was spent in the establishment of Messrs. Ruggles, Nourse & Mason, at Boston and Worcester, Mass, (the largest in America,) I feel an entire confidence in commending him to the public as one in whose integrity and judgment the patrons of the establishment may safely rely.

Albany, Feb. 1, 1848. LUTHER TUCKER.

N. B. The publication of the Cultivator and Horticulturist will be continued at the same stand as heretofore.

THE subscriber tenders his thanks to the public for the liberal encouragement and patronage shown towards the establishment since under his management, and hopes with the increasing interest manifested by the agricultural community for improvement and good tools, and constant and persevering attention on his part to the interests of the establishment and its patrons, to merit a continuance of the same He intends at all times to keep the best of implements, from the best manufacturers of this or other countries; also a full and complete assortment of Grain, Field, Grass, Garden and Flower Seeds; and all business will be transacted as heretofore upon the *One Price System.*

For prices, descriptions, &c., see Catalogue of Agricultural Warehouse, gratis, at Store, or by mail, to post-paid applicants.

HORACE L. EMERY,

Albany Ag. Warehouse, Nos. 10 & 12 Green-st., Albany, N. Y.

NEW-YORK AGRICULTURAL WAREHOUSE AND SEED STORE.

THE subscribers keep constantly on hand a large and complete assortment of Agricultural and Horticultural Implements, and Field and Garden Seeds of all kinds.

Our implements embrace upwards of sixty different sizes and kinds of Plows, among which are the celebrated Ruggles, Nourse & Mason's Eagle, Center Draft, Self-Sharpener, Side Hill, Cotton, Rice, Sugar Cane, Double Mould Board, Trenching, Subsoil, &c., &c. Also, Harrows, Rollers, Cultivators, Corn Shellers, Straw Cutters, Wheat and Corn Mills, Horse Powers, Threshers, Scythes, Cradles, Axes, Horse and Hand Rakes, Shovels, Spades, Hoes, Grafting Tools, &c., &c.

A Catalogue of the above of 100 pages, illustrated with numerous engravings, will be sent gratis to all who apply for it, post-paid.

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April 1, 1848—1t. 187 Water-st., New-York.

FIELD AND GARDEN SEEDS.

A COMPLETE assortment of American Field and Garden Seeds, of all kinds, principally grown and put up expressly for us.

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Agricultural and Horticultural Implements, a complete assortment.

The American Agriculturist, a monthly publication of 32 pages. Price $1 a year.

New-York Agricultural Warehouse and Seed Store, 187 Water-street, New-York. A. B. ALLEN & CO.

April 1, 1848—1t.

THE EAGLE PLOW.

PROBABLY no Plow has been so long before the public with so few alterations, come into so general use, or received so many, and of so high grade premiums, as the Eagle Plows, from the establishment of Messrs. Ruggles, Nourse and Mason.

Notwithstanding the great diversity of soils, modes of culture, and the increasing competition of many distinguished manufacturers, and year after year having been subjected to the most systematic, persevering and thorough trials ever had in this country, it still stands at the head of the list for excellence of work, materials, workmanship, durability and price.

By referring to the advertisement of the manufacturers in this and the last number of the Cultivator, will be seen the high estimation put upon them by committees and plowmen, as well as their very general use where they have become known.

It is but just here to state, that in the most important trials in New England, the plowmen are required to use the same plows and teams which have been used on their farms, not less than sixty days previous to the trials. The owners are required to hold their own plows, to perform a certain amount of work, usually one-eighth of an acre of a given width and depth of furrows, in a given time. All of which rules and regulations are made known months before-hand, thus avoiding very many difficulties which often arise in deciding who really merit the awards and premiums.

A full and complete assortment constantly on hand and for sale at *manufacturer's home prices at wholesale and retail*, at the Albany Ag. Warehouse, Nos. 10 & 12 Green-st., Albany, by

April 1. H. L. EMERY.

BUCKTHORN PLANTS AND SEEDS;

ALSO OSAGE ORANGE PLANTS. A full and large supply on hand, and for sale at the Albany Ag. Warehouse and Seed Store. April 1.

OSAGE ORANGE SEED—(*Maclura aurantiaca.*)

THE best article known for hedges or live fences. A large supply of the seed just arrived from Texas, price $2 per quart—a liberal discount at wholesale. Directions for planting, &c., furnished to customers. Office of the Ohio Cultivator, Columbus, Ohio. M. B. BATEHAM.

☞ Packages can be safely forwarded to any place on important stage routes in Ohio, on the Ohio river, or eastward by Express.

April 1—1t.

OSAGE ORANGE SEED.

THIRTY-five bushels Osage Orange Seed, growth of 1847, just received and for sale by ALONZO HITCHCOCK, St Louis, Missouri. April 1—1t.

DARLING'S IMPROVED EARLY SWEET CORN.

A LIMITED supply of this excellent seed corn for early use. Also a supply of early White Flint, Early Canada, Jewett's Improved and Dutton Seed Corn. For sale at the Albany Agricultural Warehouse. April 1.

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FROM a field that has produced twelve hundred and eighty dollars worth of fruit per acre in one season.

For sale in large or small quantities on the best terms by

B. G. BOSWELL,

April 1—1t. 230 Pine-st., Philadelphia.

NURSERY TREES FOR SALE.

GRAFTED Cherry Trees—price 50 cents each—*Innoculated Peach Trees*—price 12 1-2 cents each. Also a few Peach trees raised from stones brought from Buenos Ayres, where the fruit is said to be of superior quality. These trees are of two years growth, and not inoculated—price 50 cents each.

Asparagus roots of two and three years large growth at $5 per thousand, by ISAAC ROOSEVELT,

Pelham, near New Rochelle, Westchester Co., N. Y.

Feb. 21, 1848—1t.*

THE CULTIVATOR

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